A. No.

Q. And the last time you spoke to the FBI was a year and a half ago?

A. It was a while ago.

MR. LEOPOLD: Objection. Asked and answered.

BY MR. TEIN:

Q. And the last time you spoke to the federal

prosecutor's office was when?

A. I don't know.

Q. Did any of the FBI agents tell you that Marie Villafona had spoken with Mr. Leopold?

A. No.

Q. Did any of the FBI agents tell you that Marie Villafona had spoken with Mr. Herman?

A. No.

Q. Did any FBI agents tell you that Jeff Sloman spoke with Mr. Herman.

A. No.

Q. Did any FBI agents tell you that Jeff Sloman spoke with Mr. Leopold?

A. No.

Q. Do you know whether any of the federal prosecutors allowed Mr. Herman to review a draft indictment?

A. I wouldn't know.

Q. Do you know if any of the federal prosecutors discussed a draft indictment with Mr. Herman?

A. I wouldn't know.

Q. Have you ever e-mailed with any FBI agent or any federal prosecutor?

A. No.

Q. Have you ever text messaged with any FBI

agent or any federal prosecutor?

A. No.

Q. Has the FBI told you about other testimony?

A. No.

Q. Has the FBI told you about what other girls have said?

A. No.

Q. Have federal prosecutors told you what other girls have said?

A. No.

Q. Do you have any way of getting in touch with the FBI if you wanted to get in touch with them?

A. No.

Q. How about your parents? Do they know how to get in touch with the FBI?

A. I don't know.

Q. And by your parents, I'm referring to both sets, okay?

A. Oh. Well, I'm referring to only my dad, because my mom really doesn't care to know any of this stuff.

Q. So the answer would be the same for your mom and Paul?

A. Yeah.

Q. Have you spoken to a lawyer named Burt

Ocariz about this case?

A. No.

Q. Do you know who Burt Ocariz is?

Let's see if I can refresh your memory. Does it refresh your memory that he's a good friend of Marie Villafona's boyfriend?

A. I don't know who Mari Villafona is.

Q. Marie Villafona is the lead federal prosecutor that's on the federal part of this case. Okay?

A. No.

Q. So does it refresh your memory that Ocariz is the good friend of Marie Villafona's boy friend?

A. Not at all.

Q. Does it refresh your memory that Villafona tried to get Epstein to pay for Ocariz to represent you in the federal case?

A. No.

Q. Do you know if Detective Recarey has spoken with your father?

A. No.

Q. Do you know if Detective Recarey has spoken to your stepmother?

A. No.

Q. How about with amber?

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A. Yes, I would know, and no, she did not.

Q. Let's put up -- let me ask you some questions about the photo that you had posted on your MySpace page before you erased it last week. Okay?

A. Okay.

MR. TEIN: Do you mind if we close the door a second, please.

MR. LEOPOLD: Exhibit number, please.

MR. TEIN: Put up 25-005.

Hold on a second.

MR. LEOPOLD: Don't say anything. She was talking to her counsel.

MR. TEIN: Put up 25-006.

MR. LEOPOLD: Is that 005 right there?

MR. TEIN: Yes.

BY MR. TEIN:

Q. Who took this photo of you in a warehouse simulating being gang-raped by a bunch of --

MR. LEOPOLD: Objection. Mischaracterizes the photograph, and lack of foundation and predicate.

Fully explain if you need to.

THE WITNESS: I will.

First of all. This is not a warehouse. This is in Steven [redacted]'s garage.

Second of all, I'm not being gang-raped. Everyone has their clothing on.

Thirdly, if you look at all the other pictures in this album, I'm drinking -- what's when you're sick you drink it?

BY MR. TEIN:

Q. You can't ask questions of your counsel.

A. All right. I'm drinking like Sprite. I'm note drinking any kind of alcohol, if you would look at my other pictures in that album. You guys picked the possibly worst pictures out of there to present. And it was just a goofy picture. All of these kids like to be goofy. And that's what we were doing.

Q. Who's the man on the left of the picture holding his -- holding a beer bottle as if it were a penis towards your mouth?

A. Steven [redacted].

Q. Who's the man behind you, right up towards your backs side, with you bent over?

A. That one?

Q. The right side, kissing with his mouth.

A. That's Nick [redacted].

Q. He's the one grabbing towards the groin area of Steven [redacted]?

A. Yes.

Q. And there's three other men in the photo. What are their names? The one on the left with the hat?

A. That's Robbie [redacted] (phonetic).

Q. Smiling?

A. Yes.

Q. Who's the one kissing --

MR. LEOPOLD: Don't interrupt. Let her finish the record. She's testifying.

MR. TEIN: I know you don't like this picture, my friend.

MR. LEOPOLD: The picture is fine.

BY MR. TEIN:

Q. Who's the one with the hat?

MR. LEOPOLD: No. Hold on. Stop, [redacted]

You have to let the witness finish her answer. She was in the process of explaining and you cut her off.

Please finish what you were saying and then Counsel can ask you whatever he wishes after that.

THE WITNESS: Okay. This guy --

MR. LEOPOLD: Just make it so the record is clear who you're referring to.

THE WITNESS: -- on the far left is John [redacted]

BY MR. TEIN:

Q. He's the one whose head is near the groin of Steven [redacted], right?

A. Yes.

Q. And in the middle there's a man smiling. Who's that?

A. That's Robbie [redacted]

Q. Who's the one in the red hat, kissing?

A. Most Brandon [redacted] (phonetic).

Q. Let me stop you for a second. Are you done?

A. Yes, I'm done.

Q. Who is [redacted]?

A. My sister's friend. Well, she's a mutual friend, but more my sister's.

Q. What is her last name?

A. [redacted]

Q. Spell that.

A. I don't know how to --

Q. Have you spoken to her about this case?

A. No.

Q. Who's Vince?

A. My sister's friend. I don't really speak to him at all.

Q. What's his last name?

A. [redacted].

Q. [redacted]?

A. [redacted].

Q. And have you spoken to Vince about this case?

A. No, sir.

Q. Have you spoken to [redacted] about this case?

A. Not in detail, but yes.

MS. BELOHLAVEK: Are we referring to [redacted]?

THE WITNESS: Yes.

MR. TEIN: Yes.

MS. BELOHLAVEK: Okay.

BY MR. TEIN:

Q. Have you spoken to Justin about this case?

A. Justin?

Q. Do you have a friend named Justin?

A. I do not have a friend named Justin.

Q. From freshman year?

A. No.

Q. How about [redacted]?

A. No.

Q. Have you spoken to [redacted] about this case?

A. No.

Q. What's her last name?

A. [redacted]. I don't know how to spell it?

Q. Is she the person whose house you went to on New Year's this year?

A. No. I wasn't at her house on New Year's.

Q. Where were you when you took the picture of Can you say blazed? That on your website?

A. I wouldn't know or -- wait. We were at a birthday party for some girl's 16th birthday.

Q. Were you drinking at that party?

A. No. There was no alcohol or anything there.

Q. What does "blaze" mean to you?

A. It's like -- it just means like messed up. But we weren't, if you look at the picture.

Q. Messed up like drunk, right?

A. Sure.

Q. Who's [redacted]?

A. A girl I know like from like two years ago.

Q. She's the one you were supposed to be staying with when you went drinking with Nick [redacted]?

A. No.

Q. What's [redacted]'s last name?

A. [redacted].

Q. Where does she live?

A. I don't know. In Royal Palm.

Q. [redacted]?

A. Uh-huh. I'm guessing.

Q. Do you know her phone number?

A. No, I do not.

Q. Let's look at 25-010.

A. See, I'm drinking --

Q. I'm not asking you about what you're drinking.

Who are the men in this photo who are pretending to gang up on you and stab you with knives? Who are they?

A. Nick [redacted] and Brandon [redacted](phonetic).

Q. Are they firemen?

A. Are those? Steven [redacted] -- he said the two stabbing with knives. That's why I said that. I don't know. That's Steven [redacted] and John [redacted].

Q. Are these firemen?

A. No. They're all on -- except Steven, they're all on full rights for football.

Q. Go to 025-015?

MR. LEOPOLD: 025- dash?

MR. TEIN: 015.

THE WITNESS: Gosh, that's so long ago.

BY MR. TEIN:

Q. Who took the photo have you licking the penis?

A. My stepmother.

Q. Whose idea -- that was your stepmother's idea?

A. It was in Buca di Beppo, where she works currently and that was before she worked there, and we just thought it would be funny.

MR. TEIN: 19-007. Can you enlarge that?

BY MR. TEIN:

Q. Who took this photo of you simulating you having sex with a man?

A. We're not simulating having sex, and it's -- oh, and the person who took it was, I'm pretty sure, Chris, but I know him as [redacted]. I don't know his last name.

Q. Go to 19-006, please.

Who took this photo of you simulating sex with a man?

A. The same person. And we're not simulating having sex, Mr. --

Q. Tein.

Did you post that on the Internet?

A. Actually, this is an old MySpace I never finished and I never like did anything. I just kind of made it and left it.

Q. So the answer is yes, you posted this on

MySpace?

A. Yup.

Q. Go to 25-016. Who took this photo of you simulating sex with a woman?

MR. LEOPOLD: Object to the form of the question. Argumentative.

THE WITNESS: First off, she's piercing my belly button or repiercing it, and I'm pretty sure it was just like we put up a camera somewhere and put a timer on it. We didn't have anybody take it.

BY MR. TEIN:

Q. You posted that on your MySpace page?

A. Yeah.

Q. Go to 25-013. Is that a photo of you?

A. Yep.

Q. Who's in the photo with you?

A. Steven.

Q. Steven [redacted]?

A. Yep.

Q. Is this you coming out of the shower?

A. Yes.

Q. Are you clothed in this picture?

A. Yeah. I have a halter dress on.

Q. Where is that picture taken?

A. In Steven's house.

Q. Did you post that on the Internet?

A. Yes.

Q. All right.

MR. TEIN: You can take that down.

BY MR. TEIN:

Q. Now your boy friend is Brett [redacted], correct?

A. Yeah.

Q. You lie about your age in order to conceal something about your relationship with Brett [redacted]; isn't that correct?

A. No.

Q. Brett's 22 years old, isn't he?

A. Yes.

Q. And Brett is a firefighter with the Palm Beach Fire Department, right?

A. Yup.

Q. Does the Palm Beach Fire Department know that your boy friend is dating an underage girl?

A. Actually, Mister, it's legal.

Q. Well --

MR. LEOPOLD: Just answer the question, [redacted].

THE WITNESS: Yes.

BY MR. TEIN:

Q. Did they know two weeks ago that you were dating an underage girl (sic)?

A. Yes. I met everybody in there.

Q. Did they know your age?

A. Yes.

Q. Did you lie about your age so that the fire department wouldn't think that Brett is committing a crime by having a sexual relationship with an underage girl?

MS. BELOHLAVEK: Objection. Assumes facts not in evidence.

BY MR. TEIN:

Q. You can answer the question.

A. No.

Q. Does the Palm Beach Police Department know that Brett is having a sexual relationship with an underage girl?

MR. LEOPOLD: Don't guess. Answer if you know.

THE WITNESS: Can you repeat the question?

BY MR. TEIN:

Q. Does the Palm Beach Police Department know that Brett, a member of the Palm Beach Fire Department, is having a sexual relationship with an underage girl?

A. I'm guessing no.

Q. You lie about your twin sister [redacted] don't you?

MR. LEOPOLD: Objection. Argumentative.

BY MR. TEIN:

Q. Don't you?

A. No. I have never lied for or to [redacted].

Q. You lie about the fact that she has a s drug habit, right?

A. No. I would never accuse my sister of having a drug habit.

Q. Do you try to conceal the fact that she has a drug habit?

MR. LEOPOLD: Objection. Argumentative.

BY MR. TEIN:

Q. You can answer the question.

A. No. My sister does not have a drug habit.

Q. You lied when you went to the crack house in Georgia, didn't you?

MR. LEOPOLD: Objection. Argumentative. Lack of foundation, lack of predicate.

THE WITNESS: Never -- what did you say?

BY MR. TEIN:

Q. You lied when you went to the crack house in Georgia, didn't you?

MR. LEOPOLD: Objection. Argumentative. Lack of foundation, lack of predicate.

BY MR. TEIN:

Q. You can answer the question.

A. I have never been to a crack house.

Q. Who don't you lie to?

MR. LEOPOLD: Objection. Argumentative.

Don't answer the question.

MR. TEIN: Certify it.

..................CERTIFIED QUESTION..................

BY MR. TEIN:

Q. You don't lie to [redacted], do you?

MR. LEOPOLD: Objection. Asked and answered.

Don't answer the question.

BY MR. TEIN:

Q. No. You can answer that question.

MR. LEOPOLD: No. I just told her not to. You've asked that question about five --

MR. TEIN: No, I haven't.

MR. LEOPOLD: Don't answer the question.

MR. TEIN: I'll certify it.

..................CERTIFIED QUESTION..................

MR. LEOPOLD: For the record, you have to stop interrupting me because she can't take down both of us talking at the same time.

BY MR. TEIN:

Q. You tell [redacted] the truth, don't you?

A. Excuse me?

Q. You tell [redacted] the truth, don't you?

A. When it's -- yes, I tell [redacted] the truth.

Q. Who's [redacted]'s drug dealer?

A. My sister does not have a drug dealer. She lives in Georgia with my mother.

Q. Okay. Who is the drug dealer who dropped you and [redacted] off at 5:45 a.m. in 2006, after being out all night, the two of you, using drugs at Palm Beach Country Estates where your father called the police?

A. Mike [redacted]

Q. He's the drug dealer?

A. He is a drug dealer.

Q. Do you remember [redacted] was arrested by the Palm Beach Police Department and taken to the Juvenile Assessment Center that morning?

A. I do remember that.

Q. Now before you massaged Epstein, you were involuntarily admitted into a juvenile educational facility; isn't that right?

A. Did you say involuntarily.

Q. Yes.

A. No. I was willing to go. I -- duly said sure.

Q. And you went there because you were lying so much, no one could control you; isn't that correct?

A. Very incorrect.

Q. Now you lie to your parents all the time, don't you?

A. Incorrect.

MR. LEOPOLD: Objection. Argumentative.

BY MR. TEIN:

Q. Sorry?

A. Incorrect.

Q. The day you went to Epstein's house you lied to your father about where you were going; isn't that correct?

A. Correct.

Q. You admitted to the police that you told your father that you were going shopping, didn't you?

A. Yes.

Q. And that was a lie, wasn't it?

A. Yes.

Q. And isn't it true that your father has accused you of lying?

A. All the time.

Q. Didn't your father throw you out of the

house Thanksgiving of this past year because you were lying so much to him?

A. Yes, he did kick me out. No, that's not the reasons why.

Q. Didn't your father throw your sister [redacted] out of the house, too?

A. Yes.

Q. And he threw her out of the house the week after Thanksgivings, right?

A. I don't know the date, but sure.

Q. Sounds about right?

A. Sure.

Q. And the reason he threw her out of the house was because she was lying, too?

MR. LEOPOLD: Objection. Lack of foundation. Calls for speculation.

BY MR. TEIN:

Q. When your counsel coaches you, you say it's correct, right?

A. I've never been coached.

MR. LEOPOLD: Objection.

BY MR. TEIN:

Q. Okay. When your counsel that it was there was lack of foundation, you agree with your counsel, right?

A. I was like saying, Yeah, let's move on, because there was no point to asking that question.

Q. Your father threw [redacted] out of the house because she was lying, correct?

MR. LEOPOLD: Objection. Lack of foundation.

Hold on, [redacted] Let me just make the objection.

Lack of foundation, predicate, calls for speculation.

BY MR. TEIN:

Q. Answer.

A. I'm not my sister. I don't know.

Q. I want to know what you know only.

A. I don't know.

Q. You don't know. That's your answer?

A. Yes.

Q. Now your parents filed the police report regarding Mr. Epstein, right?

A. Yes.

Q. Now your parents are also lying, aren't they?

A. Yes.

MR. LEOPOLD: Just so the record is clear, the father -- because the mother was up north.

MR. TEIN: Don't testify, Counsel.

MR. LEOPOLD: So the record is clear, the father -- the mother was --

MR. TEIN: Counsel, don't coach and testify, please. That's absolutely improper.

MR. LEOPOLD: You just asked the wrong question.

MR. TEIN: You can't coach her that way and you well know it.

MR. LEOPOLD: For the record, it's the father. He's remarried, I think on his third marriage.

MR. TEIN: You cannot -- it's absolutely, totally against the rules and you know it.

MR. LEOPOLD: The natural mother lives in Georgia.

MR. TEIN: You need to behave yourself,

lawyer.

MR. LEOPOLD: The natural mother lives in Georgia. The father is here locally.

MR. TEIN: Stop coaching. Stop talking. You object. You know the rules. You just lectured me about the rules, Counsel. So why don't you play by the rules. Or only when they fit you? Why don't you grandstand a little more

now. Give us a five-minute speech, Mr. Leopold.

MR. LEOPOLD: Are you finished, for the record.

MR. TEIN: I'm not talking to you. Do what you want.

MR. LEOPOLD: Don't say anything yet.

BY MR. TEIN:

Q. [redacted] your parents --

MR. LEOPOLD: Hold it. Don't say anything yet. Let me --

BY MR. TEIN:

Q. Your parents, who filed the police report are also liars.

MR. LEOPOLD: Don't answer the question. We're not going to answer until I make the record. I want to put on the record, now that Counsel appears to be finished with his comments for the record, that the previous question was inappropriate, was intentionally misleading.

Now you can ask the question.

BY MR. TEIN:

Q. Your parents, who filed the police report in this case, are also proven liars, aren't they?

MR. LEOPOLD: Same objection.

BY MR. TEIN:

Q. Aren't your parents liars?

MR. LEOPOLD: Calls for speculation. Lack of predicate.

MR. TEIN: Stop coaching. You know what that is, Leopold.

MR. LEOPOLD: Calls for speculation. Lack of foundation.

THE WITNESS: When you say parents, my mom is not, but sure, yeah, my dad has been to jail for lying.

BY MR. TEIN:

Q. Your dad went to federal prison for two years for lying, right?

A. Correct.

Q. Did he tell you it was for a financial fraud?

A. Yes.

Q. For stealing money from some financial institution?

A. Correct.

Q. And do you think your father is trying to steal your lawsuit money away from you?

Don't look to your lawyer for the answer.

MR. LEOPOLD: You can answer if you know the answer to it. I have no idea.

THE WITNESS: Yeah.

BY MR. TEIN:

Q. And your father filed a lawsuit, the first lawsuit for fifty million dollars against Mr. Epstein without consulting you, correct?

A. Correct.

Q. And your father had a lawyer file the first lawsuit on your behalf for fifty million dollars against Mr. Epstein without your knowledge, correct?

A. Correct.

Q. And you don't trust your father, do you?

A. Correct.

Q. And you believe he's trying to manipulate you for his own gain, don't you?

A. Sort of.

Q. Well, you know that your mother filed a statement, an affidavit, saying that you don't trust your father and that you believe he's trying to manipulate you for his own gain; isn't that correct?

A. Correct.

Q. You agree with that statement, don't you?

A. Uh-huh. Yes.

Q. Do you trust your stepmother?

A. My stepmother, no.

Q. You think she's also trying to steal your

Epstein lawsuit money away from you, don't you?

A. I would like to clarify something. You keep saying my Epstein lawsuit money. I don't have any money, and it's just a lawsuit at the moment. So I just don't trust her.

Q. Okay. You think that your stepmother is trying to take advantage of this lawsuit to try to get money from Mr. Epstein that belongs to you, right?

A. Yes.

Q. Did your stepmother tell you why she was arrested?

A. No.

Q. Did your stepmother tell you that she's ever been arrested?

A. No.

Q. Did she tell you she was arrested for fraud?

A. Never.

Q. Did she tell you that she was fired from [redacted]?

A. No.

Q. Did she tell you that whe was fired from [redacted] for stealing?

A. No.

MR. TEIN: Let's take a break.

(Thereupon, a recess was taken.)

BY MR. TEIN:

Q. [redacted] before you met Jeffrey Epstein have you ever had sexual intercourse?

A. Yes, yeah.

Q. How many times?

A. Just a few. Twice.

Q. With how many different men?

A. Two.

Q. How old were they?

A. Zack [redacted] being one year older than me, and then the other person was two years older than me.

Q. What was his name?

A. Ryan [redacted].

Q. How old were you when you first had sexual intercourse?

A. 14.

Q. How many -- before you met Epstein, how many different men had you had any type of sexual activity with?

A. Just those two.

Q. Are you saying you never kissed a man other than those two?

MR. LEOPOLD: Objection to the form of the question.

THE WITNESS: Yes, I had kissed people before.

BY MR. TEIN:

Q. Before you met Epstein, had you ever had oral sex?

A. No.

Q. Ever in your life, have you exchanged sex for something of value?

A. No.

MR. TEIN: We're done.

THE WITNESS: Oh, okay.

MR. LEOPOLD: We'll read.

MS. BELOHLAVEK: I don't have any

questions. Thank you.

MR. LEOPOLD: Before we go off the record, it's my understanding -- Mr. Goldberger can correct the record, but we have stipulated that color copies of the documents that were identified for identification certainly will be attached to the deposition and counsel will be taking the photographs across street so that they can be laser color copied so that we have a copy, and I'm assuming he'll get a copy to the court reporter, too, to attach, actually a certified copy to the deposition.

MR. GOLDBERGER: Done.

MR. LEOPOLD: That's if you agree to that. If not, then I want to pull each one out and put exhibit labels on them, which we should do before we leave.

MR. GOLDBERGER: We're not going to do either. I'll have copies sent to the court reporter and she can attach them to the deposition.

MR. LEOPOLD: So you're not going to agree to what we talked about during the break then.

MR. GOLDBERGER: I'm not quite sure what your asking me to do. Let me finish.

MR. LEOPOLD: Okay. Sure. That's fine.

MR. GOLDBERGER: Okay. If you want me to go over to Ms. Belohlavek's office and make copies and then I'll give those to the court reporter, fine. All I'm saying is that I would avoid that process. I would send copies to the court reporter. But if it will make you happier --

MR. LEOPOLD: I'm not?

MR. GOLDBERGER: Let me finish.

MR. LEOPOLD: I'm not interrupting now.

MR. GOLDBERGER: But if it will make you happier if I go over to Ms. Belohlavek's office

and make a copy of those photos that were part of this deposition and then I'll give them to the court reporter, I'll be happy to do it.

MR. LEOPOLD: I trust you implicitly, however you with to do it. However, the documents, before they leave this room, need to have an exhibit sticky on them with the appropriate --

MR. GOLDBERGER: Want to go get some? We don't have any.

MR. LEOPOLD: I will do that. Excuse me. Let me finish the record, please. You can't do that to the court reporter. She's going to stroke out. You can't do that. You have to let me --

MR. TEIN: Finish your sentence, Ted. You are the most long-winded lawyer I've ever seen in my life. Finish your sentence.

MR. LEOPOLD: Jack, tell him not to raise his voice, please.

MR. TEIN: Finish your sentence. Is there going to be a period at the end of the sentence or is it just going to be comma after comma after comma?

Go ahead, lawyer.

MR. LEOPOLD: All right. The exhibits, I

can't prevent you from taking them, but I will object and I will be bringing it to the court for sanctions. You cannot take the exhibits out of the room without them being marked. I want them marked, because you cannot identify in the record what was used. And with all due respect to Mr. Goldberger, I do not -- the way this deposition is going, I do not want to rely on Counsel from Miami to mark the appropriate exhibits. I will not do that. I cannot prevent you from taking them. But if you do, I will be bringing the matter to the court with appropriate sanctions, because that is improper. That is improper. When you use something in a deposition, they are to be marked. And you have refused to do that throughout for what ever reason.

MR. TEIN: You're wrong. Finish your sentence because you're talking about something you have no idea.

Every single one is marked, Ted. Every single one is already marked. But you want to argue about everything. Ever single one is already marked. Isn't that silly, Ted?

MR. GOLDBERGER: Thirty years of doing this and I have never had an argument over this.

MR. TEIN: You've made -- Ted, you are obstructionist, you are a liar. You have lied and misrepresented things, for the record. You are grandstanding.

MR. LEOPOLD: You need to back up.

MR. TEIN: No, no. I'm going to finish.

MR. LEOPOLD: You can finish, but don't hover over me.

MR. TEIN: No one is hovering over you. Stop trying to make a lying record.

Let me say something else.

Don't you dare threaten me with sanctions, after you lied in a letter to my co-counsel about the fact -- be quiet. Be quiet and let me finish. You lied in a letter to my co-counsel, Mr. Leopold, in which you said -- it was a complete and utter lie -- that you were unavailable this morning because you had a hearing. That was a lie. I have never seen each lawyer deign to do something like that.

So you will get the ex -- be quiet. Let me finish. You behave.

MR. LEOPOLD: Don't point your finger at me.

MR. TEIN: Listen. Be quiet and I won't

have a need to point it at you.

MR. LEOPOLD: Don't point your finger at --

MR. TEIN: Mr. Leopold --

MR. LEOPOLD: Don't point your finger at

me.

MR. TEIN: Mr. Leopold, let me finish.

MR. LEOPOLD: Don't raise your voice either.

MR. TEIN: Mr. Leopold --

MR. LEOPOLD: Jack, do you want to take care of this?

MR. TEIN: Let me finish my sentence. The exhibits are marked. We are walking out of here.

You are someone who misrepresents the record. It is absolutely atrocious what you do. That is not how a lawyer should behave. This deposition is over. You will get your exhibits, Mr. Leopold.

MR. GOLDBERGER: I understand what you're saying, Michael, and I understand Ted's position.

Just so there's -- we're going to have lots offer issues in this case. We're going to have lots of reasons to disagree.

I'm going to take it over now and I'm going to make copies and I'm going to give them to

Ms. Consor. If you want to go find some exhibit labels and put some exhibit labels on it, be my guest. But that's what I'm offering to do.

THE WITNESS: Let me say two things, because I am happy to always disagree and with you, I have no problem; we could always do it professionally.

I want to say two things so the record is very clear. Since for whatever reason I have not been able to look at exhibits because they have been refused to have been shown to me --

MR. TEIN: That's a lie.

MR. LEOPOLD: Jack, if you represent that the documents have the appropriate exhibit numbers or some identifying markings, 25, 30.000, whatever they may be, then you can take them, make copies, send me a copy, make sure the court reporter gets a copy and then send me a bill for my copy, that's fine. I didn't know that they are marked that way because I haven't been able to look at them.

MR. GOLDBERGER: They are barcoded and the number that we've made reference to in the deposition coincides with the barcoding.

MR. LEOPOLD: That's fine. Eight by eleven color laser copies are fine.

MS. BELOHLAVEK: The State Attorneys Office is not going to charge anybody for color copies I print out.

MR. LEOPOLD: That's fine. He's going to take them back to his office .

Secondly -- and I will be more than happy to do it, because it sounds like you all know more about it than I, but I'm happy to get affidavits from Mr. Pincus, Judge Stern, everybody else about what happened with this hearing today, because I know very little about it. But my representations are what they are.

MR. GOLDBERGER: They stay --

MR. LEOPOLD: Let me just finish for the record.

Representations or comments about what happened, representation about this hearing this morning, I know very little about it. I --

MR. GOLDBERGER: I'll take your word on that.

MR. LEOPOLD: No, no, no. I just put it on the record. I will get an affidavit -- I'm assuming it sounds like you need it -- from Mr. Pincus. I have no clue about what happened and why it was canceled. All I was told when I was

out of town yesterday was that the hearing this morning was cancelled.

MR. GOLDBERGER: I'll take your word for it.

MR. LEOPOLD: If you want an affidavit, I'll get it for you.

MR. GOLDBERGER: It's a personal issue for me because I had to disrupt a vacation and if it was done just because it wasn't convenient for you, then I'm offended by that. But if you're telling me that it was planned and it didn't happen, I'll take your word for it.

MR. LEOPOLD: I am more than happy to get you an affidavit, because I don't know the reason why it was canceled other than the fact that I'm assuming since my deposition was taken for four hours on Monday for preparation for the hearing today, for whatever reason it was canceled, I am told it is being re-noticed. Why it was canceled I have no idea, but if your co-counsel wishes an affidavit to that effect from Mr. Pincus, I'm more than happy to get it. But I don't know the reason why it was canceled.

MR. TEIN: I don't need it. But what I do take issue with is regardless of why it was

canceled, you owed us the courtesy of saying, you know what? We can start earlier this morning.

MR. LEOPOLD: I owe you nothing.

MR. TEIN: I don't care. Don't interrupt me.

Because Jack canceled his vacation plans because of you.

MR. GOLDBERGER: That's all right, that's all right.

MR. TEIN: And you're selfish. And this deposition is over. Good-by Mr. Leopold.

MR. GOLDBERGER: You can go off the record.

- - -

CERTIFICATE

- - -

The State of Florida, )
County of Palm Beach. )

I hereby certify that I have read the foregoing deposition by me given, and that the statements contained herein are true and correct to the best of my knowledge and belief, with the exception of any corrections or notations made on the errata sheet, if one was executed.

Dated this _____day of_____________, 2008.

______________________________
[redacted]

DATE: [!MONTH2] DATE2, 2008

TO: [redacted]
X
X
X, Florida X

IN RE: CASENAME
CASE NO.: 2006 CF09454AXX

Please take notice that on Wednesday, the DATE1 of [!MONTH1], 2008, you gave your deposition in the above-referred matter. At that time, you did not waive signature. It is now necessary that you sign your deposition.

^ Please call our office at the below-listed number to schedule an appointment between the hours of 9:00 a.m. and 4:30 p.m., Monday through Friday.

^As a professional courtesy, I am enclosing a condensed copy of your deposition transcript.

^ As previously agreed to, the transcript will be furnished to you through your counsel. Please read the following instructions:

At Page ^ of the transcript, you will find an errata sheet. As you read your deposition, any changes or corrections that you wish to make should be noted on the errata sheet, citing page and line number of said change. DO NOT write on the transcript itself. Once you have read the transcript and noted any changes, be sure to sign and date the errata sheet and return these pages. You need not return the entire transcript.

If you do not read and sign the deposition within a reasonable time, the original, which has already been forwarded to the ordering attorney, may be filed with the Clerk of the Court. If you wish to waive your signature, sign your name in the blank at the bottom of this letter and return it to us.

Very truly yours,

________________________________
Judith F. Consor, FPR
Consor & Associates Reporting and Transcription
1655 Palm Beach Lakes Boulevard, Suite 500
West Palm Beach, Florida 33401

I do hereby waive my signature:

________________________________
SAIGE GONZALEZ

cc via transcript: JACK A. GOLDBERGER, Esquire
LANNA BELOHLAVEK, Esquire
MICHAEL R. TEIN, Esquire
file copy

# E R R A T A S H E E T

IN RE: CASENAME
DEPOSITION OF: [redacted] TAKEN: [!MONTH1]
DATE1, 2008

DO NOT WRITE ON TRANSCRIPT - ENTER CHANGES HERE

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Please forward the original signed errata sheet to this office so that copies may be distributed to all parties.

Under penalty of perjury, I declare that I have read my [!TYPE] and that it is true and correct subject to any changes in form or substance entered here.

DATE:_______ SIGNATURE OF DEPONENT:____________________

THE STATE OF FLORIDA, )

COUNTY OF PALM BEACH. )

I, the undersigned authority, certify that [redacted] personally appeared before me on the DATE1 of [!MONTH1], 2008 and was duly sworn.

WITNESS my hand and official seal this DATE2 day of [!MONTH2], 2008.

Judith F. Consor, FPR
Notary Public - State of Florida

# C E R T I F I C A T E

The State Of Florida, )
County Of Palm Beach. )

I, Judith F. Consor, Court Reporter and Notary Public in and for the State of Florida at large, do hereby certify that I was authorized to and did stenographically report the [!TYPE] of [redacted] that a review of the transcript was not requested; and that the foregoing pages, numbered from 1 to ^, inclusive, are a true and correct transcription of my stenographic notes of said [!TYPE].

I further certify that said [!TYPE] was taken at the time and place hereinabove set forth and that the taking of said [!TYPE] was commenced and completed as hereinabove set out.

I further certify that I am not an attorney or counsel of any of the parties, nor am I a relative or employee of any attorney or counsel of party connected with the action, nor am I financially interested in the action.

The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or direction of the certifying reporter.

DATED this DATE2 day of [!MONTH2], 2008.

Judith F. Consor, Court Reporter
Florida Professional Reporter

# TAB 14

THE STATE OF FLORIDA, )
COUNTY OF PALM BEACH. )

IN RE:

JEFFREY EPSTEIN.
______________________________/

SWORN STATEMENT OF [redacted]

Friday, March 21, 2008
4:00 p.m. - 4:20 p.m.

250 Australian Avenue South
Suite 1400
West Palm Beach, Florida 33401

Reported By:
Judith F. Consor, FPR
Notary Public, State of Florida
Consor & Associates Reporting and Transcription
West Palm Beach Office
Phone - 561.682.0905

APPEARANCES:

On behalf of the Defendant:
JACK A. GOLDBERGER, ESQ.
ATTERBURY, GOLDBERGER & WEISS
250 AUSTRALIAN AVENUE SOUTH
SUITE 1400
WEST PALM BEACH, FLORIDA 33401
561.659.8300

ALSO PRESENT
LILLY ANN SANCHEZ, ESQ.
FOWLER WHITE, ATTORNEYS AT LAW

- - -

Statement taken before Judith F. Consor, Court Reporter and Notary Public in and for the State of Florida at Large, in the above cause.

- - -

Thereupon,

[redacted]

having been first duly sworn or affirmed, was examined and stated as follows:

THE WITNESS: I do.

BY MR. GOLDBERGER:

Q. Would you state your name for the record, please.

A. [redacted]

Q. Okay. [redacted] where do you live now?

A. Address?

Q. Sure.

A. [redacted]

Q. Do you live there alone or do you live with somebody there?

A. My father.

Q. Very good. And are you working now or not working? Sometimes you work and sometimes you don't?

A. When I want to.

Q. Okay. And how old are you today?

A. Twenty-one.

Q. Very good.

What we're going to do today is we're going to take what's know as a sworn statement from you. And my court reporter just put you under oath. So all I want you to do is tell the absolute truth today.

A. Right.

Q. I don't want you to color what you're saying in any way. Really, the only thing that will be of any use to anyone is if you just tell the absolute truth.

A. Right.

Q. So those are the instructions, okay?

A. Okay.

Q. All right. And sometimes -- I've been doing this for a lot of years and sometimes I talk like a lawyer too much, and if you don't understand what I'm --

A. That's your job.

Q. I guess. But if you don't understand what I'm saying at some point, just say, "Jack, say it in English," and I'll make it better for you. Okay?

A. Okay.

Q. So tell me how you first met Jeffrey Epstein.

A. [redacted] introduced me to him.

Q. And [redacted] was a friend of yours at the time?

A. Yes.

Q. Okay. And tell me a little bit about the introduction, how [redacted] introduced you to Jeffrey.

A. Well, she told me that I could go over there and give him a massage --

Q. Okay.

A. -- and he'd pay me for it and that he was a respectful guy.

Q. Okay. So let's break that down a little bit.

She told you you could go over there to Jeffrey Epstein's house and give a massage?

A. Right.

Q. When she said go give a massage did she tell you what she meant by that?

A. Just are -- no. Just a massage. She didn't really give me any details.

Q. Okay. Let me ask it to you another way.

A. Okay.

Q. Was there any suggestion that what you were being offered the opportunity to do would be sexual in any way?

A. No.

Q. Okay. So as far as you understood it and as far as what [redacted] told you, you would be going over to Mr. Epstein's house and just giving him a normal therapeutic massage?

A. Right.

Q. Okay. And I assume [redacted] told you you would be paid for it?

A. Yes.

Q. Did she tell you how much you would be paid?

A. Yes. Two hundred.

Q. Okay. When was the first time that you went to Jeffrey Epstein's house? Was it after you spoke to Alex?

A. Yes.

Q. Okay. And the first time that you went to Mr. Epstein's house, that was in response to [redacted] talking to you in person. In other words, she said -- you saw her somewhere, be it at the store that you worked at or around the neighborhood, she said to you in person, "Do you want to go over to Jeffrey Epstein's house?" Right?

A. Uh-huh.

Q. She didn't call you on the telephone and offer you the opportunity?

A. No.

Q. And she didn't e-mail you about that?

A. No.

Q. She didn't send you a text message like you guys do?

A. No.

Q. Okay. She just simply saw you in person one day and said, "Do you want to go over to Mr. Epstein's house and do a massage?"

A. Yes.

Q. And I take it you said okay and you went over there?

A. Yes.

Q. All right. Now at the time that you went over there, you were not yet 18, but you were almost 18?

A. Yes.

Q. You were within a couple of months of being 18 years old?

A. Yes, I do believe so.

Q. Okay. And what did [redacted] tell you about if asked, how old you should tell anyone you were when you went over to his house?

Was that a bad question?

A. Repeat that.

Q. Sure. Okay.

Before you went over to Jeffrey's house after you met [redacted] in person, did she tell you if anyone asked you how old you were, how old you were supposed to say you were?

A. Yes.

Q. What did she tell you?

A. Yes. She told me to say that I was 18 if it was asked.

Q. She didn't give you a script and say as soon as you walk in the house you're supposed to say, "I'm 18," right?

A. No.

Q. She just said that if anyone ever asked, you should say that you were 18 years of age.

A. Right.

Q. And I assume if you were asked, you wanted to be convincing that you were over the age of 18, because you wanted to do the work, right?

A. Right.

Q. By the way, were you ever asked?

A. Eventually.

Q. Okay.

A. Not the first day, I don't believe.

Q. Okay. Was it Jeffrey or someone else that asked you whether you were over the age of 18?

A. It was probably Jeffrey. I don't remember very clearly.

Q. Whoever asked you, though, you clearly said when asked, "I'm 18."

A. Uh-huh.

Q. And you were very believable in saying that you were over 18?

A. Yes.

Q. Okay. Now the first time that you went to Jeffrey's house did you give him a massage that day?

A. Uh-huh.

MS. SANCHEZ: Answer yes or no so the record is clear.

THE WITNESS: Yes. Okay.

(Discussion held off the record.)

BY MR. GOLDBERGER:

Q. Okay. So you go to Jeffrey's house and you meet him and you're going to do a massage that day, right?

A. Yes.

Q. Now were you -- you were not forced to give a massage, correct?

A. No.

Q. You were not forced to do anything that you didn't want to do?

A. Right.

Q. No one coerced you or threatened you in any way?

A. No way.

Q. No one offered you any drugs to do a massage?

A. No.

Q. No one offered you any alcohol to do a message?

A. No.

Q. And prior to going over to Jeffrey's house the first time there was no e-mail message from him?

A. No.

Q. In any way?

A. No way.

Q. There was no text mail message from him?

A. No.

Q. There was no fax from him?

A. No.

Q. Okay. And the same questions: There was no e-mail from anyone that worked for Jeffrey before you went over there?

A. No.

Q. No text messages from anybody?

A. No.

Q. The reason you went there is because [redacted] [redacted] told you in person --

A. Yes.

Q. -- that if you wanted to -- it was all voluntary on your part -- you could go to Jeffrey's house and give him a massage.

A. Right.

Q. Okay. So did [redacted] tell you what to expect when you went there, as far as keeping your clothes on or taking your clothes off?

A. She did say that he may ask me to take my clothes off and that he was very respectful about that and that if I didn't feel comfortable about it that I didn't have to.

Q. All right.

A. It was no problem. He wouldn't be upset.

Q. All right. So [redacted] told you there would be no pressure on you whatsoever?

A. Right.

Q. You simply did what you wanted to do?

A. Yes.

Q. And if you didn't want to do something, you were free to say, "No. I don't want to do it"?

A. Yes.

Q. All right. And in your experiences with

Mr. Epstein, by the way, was there ever a time when that didn't play out, when he tried to force you to do something that you didn't want to do?

A. He never tried to force me to do anything.

Q. If you said no to something, whatever that might be, he would respect that?

A. Yes.

Q. All right.

Now the first time that you went there do you remember whether you gave Jeffrey a massage with your clothes on or your clothes off?

A. At the beginning, it was with all my clothes on.

Q. Uh-huh.

A. But the most that -- I mean I was still in my bra and panties.

Q. Okay. The whole time?

A. Yes.

Q. Right.

A. I'm pretty sure, yes.

Q. Did you see during that massage -- did he try and touch you in any way during that massage?

A. No.

Q. Did he use any kind of device on you in any way during that massage?

A. No.

Q. Do you know -- he was wearing a towel through that massage?

A. Yes.

Q. Do you know whether he touched himself in any way, his penis or anything like that, during the massage?

A. Yeah, like towards the end.

Q. Okay. Do you know whether he masturbated?

A. Oh, my gosh.

Q. If you don't know, you don't know.

A. I mean probably, but I don't know. I can't remember exactly. It was so long ago.

Q. Okay. There was nothing that you were uncomfortable with in this massage?

A. No. Yeah. And like I said, he also, you know, reassured if I wasn't comfortable with anything, then just tell him and --

Q. He would stop?

A. -- that would be the end of it.

Q. Okay. Now after that first time you met at Jeffrey's house, you left. And did there come other times that you went to Jeffrey's house?

A. Yes.

Q. And how would that occur? How would that happen?

A. [redacted] one of his assistants, would call me and ask me if I would like to come over and give a massage, because he would be in town.

Q. So would it be primarily [redacted] that would call or would there be others?

A. Most of the time.

Q. And would it be a message that would be left for you or would it be you would talk to [redacted] or one of the other as assistants directly?

A. I mean generally it would be directly.

Q. Okay.

A. Unless I didn't answer my phone.

Q. And if I think I understand what you're saying, you would talk to Sara or another assistant and they would say, "Listen, Jeffrey's going to be in town. Would you like to come over and give a massage?" Right?

A. Yes.

Q. Was there ever any suggestion in any of those phone calls where you made arrangements to go to Jeffrey's house that there would be anything sexual that would occur at the house?

A. No.

Q. Was it always if there was a phone call, that this was whether you wanted to come and give a massage or not?

A. Yes, it was always that.

Q. Okay. And there was never any discussion, "Well, we really want you to come over because we want you to have sex with Jeffrey," or anything like that?

A. Right. No way.

Q. Never, ever suggested, right?

A. No.

Q. Okay. The only thing that ever occurred on any of these phone calls was, "Are you willing to come over," or, "Would you like to come over and give a massage?"

A. Right.

Q. Okay. And the phone calls from Jeffrey -- well, you never spoke to Jeffrey on the phone, right?

A. No.

Q. Okay. The phone call from [redacted] or any other assistant would always -- it would be sporadic, right? They always said, "Jeffrey's going to be in town. Do you want to come over this afternoon at four o'clock?"

A. Yeah, yeah. It wasn't --

Q. There was nothing regular about it?

A. No.

Q. Okay. Other than [redacted] who else would have called you to ask whether you wanted to come over and give a massage?

A. If it wasn't [redacted] then I believe [redacted] maybe one other person I don't know the name of. Just -- I mean it was mostly [redacted] And [redacted] I spoke to a time or two.

Q. Okay. Now when you would go over to Jeffrey's house after getting a phone call, you would go and you'd go to give him a massage, right?

A. Yes.

Q. And occasionally would there be more than a massage that occurred?

A. It happened a few times.

Q. Okay. And the few times that it happened, though, it was very sporadic and it was nothing that was planned?

A. No way.

Q. It just occurred?

A. Right.

Q. So it wasn't like there was a phone call, you know, "Today we want you to come over and do more than just a massage with Jeffrey"?

A. Right.

Q. When anything more occurred you'd be over there and it would be totally voluntary on your part?

A. Yes; definitely consensual.

Q. Okay. Now when we're talking about more than just a massage, what sort of conduct are we talking about that might have occurred?

A. It was probably mostly -- maybe not, not particularly oral, but, I mean there's just random things, but not sex.

Q. Okay. So let's put it into perspective. You certainly never had intercourse with him, right?

A. No.

Q. And did you actually ever really have oral sex with him?

A. Maybe once or twice. I barely even remember that.

Q. Okay.

A. I mean it was all just mostly --

Q. I'm sorry. Mostly what?

A. Mostly like hand oriented.

Q. Okay. So on occasion you would touch his penis with your hand?

A. It's happened a few times.

Q. Okay. And anytime that occurred it would be totally voluntary on your part?

A. Yes.

Q. Consensual on your part?

A. Yes. He would never make me do anything.

Q. And it would just be totally random and it would occur during the moment?

A. Uh-huh.

Q. Okay. There was nothing that was planned in advance concerning that?

A. No.

Q. And it didn't become every time you went over there that would happen, right?

A. Yeah. No.

Q. No, no. I mean just you would go over and give a massage one day and the phone call would be the same, "Do you want to come over and give a massage," and maybe --

A. Yes.

Q. -- maybe another time you would get a phone call, "Do you want to come over and give a massage," and just because of the day it was or whatever was going on, it may have gone a little further where they may have been some touching, correct?

A. Right.

Q. And then the next time you could go over there and it could have been a regular massage again, right?

A. Uh-huh.

Q. Okay. So the point that I guess I'm trying to make was that there were never phone calls that would come to you and they would say, "Do you want to come over and give a massage," and you just assumed it would be to go have sex? That was not the case?

A. No.

Q. Never, never, never, right?

A. Yes.

Q. All right. There were times when you would be away and not be in Palm Beach and -- I mean you very much thought that Jeffrey was your friend? You treated him as a friend?

A. Yes, definitely. I felt that he was my friend.

Q. And there were times when maybe you were out of town and for whatever reason, you found yourself in a situation where you needed some money, correct?

A. Yes.

Q. Okay. And you felt that the relationship was such that you could call Jeffrey and it never had anything to do with a massage or anything. You would say, "Listen, I could use a couple of dollars. I have a problem."

A. Yes.

Q. And would he ever hesitate to help you out?

A. No.

Q. And in fact, did he not tell you that, listen -- he would talk to you about life and about --

A. Yes.

Q. -- about what you wanted to do with your life?

A. Yes.

Q. And he said, "If you ever find yourself in trouble, you have a friend in me and you can give me a call"?

A. Yes.

Q. Okay. If you had to guess -- and recognizing that there can be no accuracy here -- if you had to guess, how many times do you think you went over to Jeffrey's house?

A. I would say at least five, less than ten.

Q. Okay. I think that's kind of a fair range.

And during those five to ten times that you went there, was there ever anything uncomfortable, in your mind, that occurred over at Jeffrey's house?

A. No.

Q. Okay. I know we've touched on this, but just Lilly, the detail person, makes sure that we get everything. After you met Jeffrey the first time did you ever talk to him on the telephone about arranging a massage or anything like that?

A. No.

Q. Okay. And you never e-mailed him or anything like that?

A. No, no.

Q. Never text-messaged him?

A. No.

Q. Okay. Now at times when you would go over to give a massage, Jeffrey, while he was getting the massage, would be preoccupied doing a lot of things, right?

A. Yes, very often.

Q. He was a busy guy?

A. Yes.

Q. He would be on the telephone talking to folks while you were giving a massage?

A. Yes. Sometimes it would be just a massage and he'd be pretty much doing business the whole time.

Q. Right. Certainly it wasn't sex or anything like that?

A. No.

Q. He would be doing business and you'd be massaging him?

A. Yes.

Q. Okay. Give me one second.

(Discussion held off the record.)

BY MR. GOLDBERGER:

Q. Every time you went back to Jeffrey's house you went back there because you wanted to, right?

A. Uh-huh, yes.

Q. No one -- certainly Mr. Epstein never tried to persuade you or induce you or entice you or coerce you to engage in any kind of sex?

A. No.

Q. And no one representing Jeffrey Epstein ever tried to persuade or induce you to engage in sex?

A. No.

Q. All right. And I think you told me when we first started talking that you were very, very close to your 18th birthday, and when asked, you in fact said you were 18 and tried to be very, very convincing of that.

A. Yeah. I didn't mean that -- all I said was I was 18.

Q. Okay.

A. Like there was no ifs, ands or buts about that.

Q. There was a time when there was a concert or a show down in Fort Lauderdale and Jeffrey got you tickets to go to that show because it was your birthday, right?

A. Correct.

Q. Okay. I assume, based on what you're telling me, Jeffrey didn't know at the time that it was your 18th birthday. He must have --

A. No. It was kind of like -- it was my 19th birthday.

Q. Okay. And you made it pretty clear to him that it was your 19th birthday and not your 18th birthday?

A. Yeah. I tried not to like even touch upon that.

Q. But I know you didn't try and touch upon it --

A. Yes.

Q. -- but was it clear to him, based on what you know, that he thought it was your 19th birthday?

A. Yes.

Q. Okay. Great.

Here's the lawyer talking now.

I didn't try to influence you in any way to say anything, did I?

A. No.

Q. In fact, all I asked you to do is tell me the absolute truth here today?

A. Yes.

Q. And that's what you've done?

A. Yes.

Q. Okay. And you've understood all my questions, have you?

A. Yes.

MR. GOLDBERGER: Okay. I thank you very much for coming in today and it really made it much easier for us to do it this way. So thanks a lot.

(Thereupon, the sworn statement was concluded at 4:20 p.m.)

- - -

THE STATE OF FLORIDA, )
COUNTY OF PALM BEACH. )

I, the undersigned authority, certify that [redacted] personally appeared before me on the 21 of March, 2008 and was duly sworn.

WITNESS my hand and official seal this 22nd day of March, 2008.

Judith F. Consor

Judith F. Consor, FPR
Notary Public - State of Florida

# CERTIFICATE

The State Of Florida, )
County Of Palm Beach. )

I, Judith F. Consor, Court Reporter and Notary Public in and for the State of Florida at large, do hereby certify that I was authorized to and did stenographically report the sworn statement of [redacted] that a review of the transcript was requested; and that the foregoing pages, numbered from 1 to 24, inclusive, are a true and correct transcription of my stenographic notes of said sworn statement.

I further certify that said sworn statement was taken at the time and place hereinabove set forth and that the taking of said sworn statement was commenced and completed as hereinabove set out.

I further certify that I am not an attorney or counsel of any of the parties, nor am I a relative or employee of any attorney or counsel of party connected with the action, nor am I financially interested in the action.

The foregoing certification of this transcript does not apply to any reproduction of the same by any means unless under the direct control and/or direction of the certifying reporter.

DATED this 22nd day of March, 2007.

Judith F Consor

Judith F. Consor, Court Reporter
Florida Professional Reporter

[redacted]

[redacted]

[redacted]

[redacted]

# TAB 15

THE STATE OF FLORIDA. )
COUNTY OF PALM BEACH. )

IN RE:

JEFFREY EPSTEIN,

---

CONTINUED SWORN STATEMENT OF
[redacted]

March 26, 2008
6:05 p.m. to 6:22 p.m.

South 86th Terrace
West Palm Beach, Florida

Reported By:

Maria C. Powers,
Notary Public State of Florida
J. Consor & Associates Reporting & Transcription
West Palm Beach Office
Phone 561.682.0905

ORIGINAL

APPEARANCES :

On Behalf of the Defendant:

JACK A. GOLDBERGER, ESQ.

ATTERBURY, GOLDBERGER & WEISS

250 South Australian Avenue

Suite 1400

West Palm Beach, Florida 33401

I N D E X

| WITNESS: | DIRECT |
|---|---|
| [redacted] | |
| By Mr. Goldberger | 4 |

Sworn Statement taken before Maria Powers, Court Reporter and Notary Public in and for the State of Florida at Large, in the above cause.

Thereupon,

[redacted]

having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GOLDBERGER:

Q [redacted] as you remember, my name is Jack Goldberger. I think we met last Friday, actually.

You voluntarily came in and gave a sworn statement to me concerning your knowledge and your friendship with Jeffrey Epstein.

I would like to very, very, briefly continue that statement today, and just focus on one area that we forgot to question you about last Friday.

A Yes.

Q All I want you to tell me is the absolute truth here this evening. There's no right answer, other than the truth, okay?

A Right.

Q I haven't promised you or asked you to do anything, one way or the other, have I?

A No.

Q So, we covered a lot of ground last time. One area that I didn't ask you about is contact that you've had with either the FBI or the U.S. Attorney's Office, within the last two or three years.

Can you guess or estimate how many times someone from the FBI or the U.S. Attorney's Office or some other law enforcement agency, has attempted to contact you in the last couple of years?

A I'd have to say -- well, maybe five or six meetings with, and more than that with phone contact.

Q Let's try to break it down by meetings and phone contacts. I think that would be the best way to do it.

Of the actual meetings that you've had with someone from law enforcement or from the U.S. Attorney's Office, who do you remember being present at those meetings?

A Nesbith was at all of them.

Q When we're talking about "Nesbith" we're talking about an FBI agent by the name of "Nesbith Kurkendall"?

A Yes.

Q And Nesbith was present at all those meetings?

A Yes.

Q Okay, go ahead.

A The first one was a guy, I'm not sure of his name. And then there's another one that had -- another lady with the victim's rights.

Q She was victim's right representative?

A Yes.

Q We talked about a lawyer by the name "Marie Villafona;" do you know whether she was present during any of those meetings?

A I'm not sure of the name.

Q The first time that you met with Nesbith, where did that take place?

A Here, in my backyard.

Q In your backyard, at your home in Western Palm Beach County, right?

A Yes.

Q Did she announce to you that she was coming, or did she just show up?

A She showed up.

Q Unannounced?

A Yes.

Q During that time, I assume that you told her about your relationship with Jeffrey Epstein and any contact you've had with him, correct?

A Correct.

Q Did she tell you anything about whether you were a victim in this case, or anything like that, at that meeting?

A Yes, she said I was a victim/witness in this, and that there's victim rights that I'm entitled to, which include counseling and whatnot.

Q Did you tell her, at that time, that you didn't feel that you were a victim at all, and that anything that you've done with Jeffrey Epstein was totally voluntary?

A Yeah, I did tell her that everything was, you know, consensual with everything, and I don't agree with anything that's going on.

Q Did she try and pressure you into being a victim in this thing, when you were not a victim?

A I wouldn't say that she pressured me, but she tried to be as convincing as possible.

Q Maybe the use of the word "pressure" is too strong. But she was trying to change your opinion of what the relationship was with Jeffrey?

A Yes, she was trying to make me feel bad about it, in a way, about what was going on.

Q And you didn't feel bad about it, you felt everything was okay, but she was trying to make you feel bad, like something wrong had occurred?

A Yeah.

Q How long did that meeting go on for?

A Probably about -- at least an hour.

Q When was the next time that you had contact with Nesbith or someone else from law enforcement?

A I'm not sure, probably a month or later. I mean, she probably called me and let me know that she was going to -- you know, she wanted to meet sometime soon, to deliver the victim's rights papers to me.

Q So there was a time, after you first met, where, despite the fact that you said, I don't consider myself a victim in this, she called you and said, I want to bring you some paperwork that talks about your victim's rights?

A Yes.

Q What was your response to her when she told you that?

A I told her I would meet with her, 'cause she wanted me to meet with the other woman involved. And they gave them to me.

I took them, but I never really told them I needed counseling or anything like that.

Q Where did that meeting take place?

A I believe it was Panera Bread in Wellington.

Q She actually came and sought you out at a restaurant?

A Well, I told her to meet me there.

Q Were you working there or were you just --

A No, I was just there.

Q So she called you and said, I really, really want to see you. And you said, if you want to see me, meet me at Panera Bread?

A Yes.

Q Did you feel if you didn't meet her, she wasn't going to go away, that you had to deal with her?

A Well, I mean, it wasn't particularly that. I knew that she was going to contact me because of this case. Because, whether I want to be involved or not, I have to be.

Q Okay. That's two meetings that I know of. I think you indicated that, if you had to guess, there were maybe a total of five meetings.

Are there other meetings that we haven't talked about that occurred?

A Yeah, but they were very vague. They weren't anything of importance. And, I mean, it was just her -- or of importance to me, anyway.

Q Would she call you and say, listen, I really,

really, want to talk to you about being a victim or --

A It wasn't always directly about being a victim. And, every time we talked, she would always touch upon the fact that if I need any help or so-on-and-so-forth, because I am a victim in this case.

Q I assume, based on what you're telling me, you continued to tell her, I'm not a victim?

A I just let her say what she said. I never got counseling. But she knows from the beginning, and, I continued to reassure her, that I don't feel that way.

Q So, the first time you met with her, when you spent about an hour with her and you went through all your contact with Jeffrey, that's what occurred at that meeting, and she talked to you about being a victim at that meeting?

A Yes.

Q And then there was this second meeting, where she brought a victim's rights person with her, and that took place at Panera Bread, right?

A Yes.

Q And you had the same response, listen, you think I'm a victim. You could give me the information, but I don't need that information, right?

A Right, pretty much.

Q And then there were some other contacts.

Would she call you and want to talk to you about the specific facts about the case? I mean, why would she contact --

A Yeah, I mean, just to re-question me about certain things, because she wasn't sure that the answers were --

Q Were those in-person meetings?

A I mean, a lot of them were on the phone. I mean, it wasn't very often that we would meet.

Q Was there any other time that you did meet?

We talked about two times that you actually did meet, once here at your home and once at Panera Bread.

Were there any other actual meetings, or did the others occur on the phone?

A There were other meetings, but they were, like I said, not really important.

Q Do you remember where they were that they took place?

A They came to my job, I think, two times.

Q When you say "they" --

A Well, it Nesbith the first time, and, the second time, it was the David Copperfield investigators with Nesbith.

Q Right.

So, the third time that you met with Nesbith, she came to your job, and she wanted to talk to you about more facts of the case?

A Ah-huh.

Q And, during that meeting, she also talked to you about your rights as a victim again?

A Yeah, she always reassured me of my rights as a victim.

Q Then there would have been a fourth time we're talking about now, where there were investigators from Washington coming down, concerning David Copperfield, and Nesbith introduced them to you, correct?

A Right.

Q I take it what you're telling me is that Nesbith seized the opportunity to talk to you again about being a victim, right?

A She always kind of comes out as asking if I'm okay, and if everything okay. And if I ever need any kind of help or anything, with -- you know, I could always have help.

Q Did you continue to say, listen, I'm fine, there's no issues here?

A I just -- I mean, I was never pushy on it. I just, like I said, she always knows.

I may not tell her every time, but she always knows how I feel about this case.

Q Meaning?

A I don't need anything.

Q Meaning that you made it really clear to her that you didn't need any help?

A Yeah, from the beginning, I was very, very reassuring about how I felt about it. And I wasn't very happy.

Q All right. I understand.

Now, we're about four contacts with Nesbith -- your house, Panera Bread, work, the David Copperfield investigators.

A Yes.

Q Were there any other meetings that we have not spoken about?

A There may have been like one or two. But they're -- I don't even remember. I mean, those are the ones, like, that remember the most.

Q That you really remember, okay.

Now, were there other telephone calls that occurred, where, kind of the same kind of conversation would occur? You know, there's help for you and you'd say, I'm really not a victim here?

A Like I said, I was, like, okay. You know, she would always continuously tell me. I mean, but every time, it was the same thing.

I mean I was never -- I mean, I was never mean to any of them. I never gave anybody attitude about anything. But, I mean, she knows that. She knows how I feel.

Q I think what I hear you saying is that she knows how you feel, and you made it clear to her from the start, that you were not a victim?

A Yeah, I mean, she pretty much, does it because that's what she has to do. She has to continue to tell me. And, you know, in a way, try to convince me that I am a victim.

I just let her say what's she's going to say, and, then, you know, okay, goodbye.

Q Do you think that's what she was trying to do, is try to convince you to change your attitude as to how you felt?

A In a way, yes.

Q Is there anything else that we need to discuss that we haven't talked about?

A No, I think that's mostly it.

Q I appreciate your courtesies once again for seeing me one more time, and doing this voluntarily.

And, thanks so much for making yourself available today.

A No problem.

Q That will do it -- actually, one more time.

Brittany, let me say one more time:

Everything you've told me here today is the absolute truth, right?

A Yes.

Q I haven't tried to convince you to say one thing, one way or the other, have I?

A No.

Q All right. That's it. Thank you very much.

(Thereupon, the sworn statement was concluded at 6:22 p.m.)

THE STATE OF FLORIDA )
COUNTY OF PALM BEACH )

I, the undersigned authority, certify that [redacted] personally appeared before me on March 26, 2008 and was duly sworn.

WITNESS my hand and office seal this 26TH day of MARCH, 2008.

Maria C. Powers

Maria C. Powers, Court Reporter
Notary Public - State of Florida
My Commission No. DD149010
My Commission Expires: 9/10/10

# C E R T I F I C A T E

The State of Florida )
County Of Palm Beach )

I, MARIA C. POWERS, a Shorthand Reporter, State of Florida at Large, do hereby certify that [redacted] was by me first duly sworn to testify the whole truth; that I was authorized to and did report said deposition in stenotype; and that the foregoing pages, numbered from 1 to 17 inclusive, are a true and correct transcription of my shorthand notes of said deposition.

I further certify that said deposition was taken at the time and place hereinabove set forth and that the taking of said proceeding was commenced and completed as hereinabove set out.

I further certify that I am not an attorney or counsel of any of the parties, nor am I a relative or employee of any attorney or counsel of party connected with the action, nor am I financially interested in the action.

The foregoing certification of this transcript does not apply to any reproduction of the same by any means, unless under the direct control and/or direction of the certifying reporter.

IN WITNESS WHEREOF, I have hereunto set my hand this 26TH day of MARCH, 2008.

Maria C. Powers

Maria C. Powers, Notary Public
In and for the State of Florida
My Commission No. DD149010
My Commission Expires: 9/10

[redacted]

[redacted]

[redacted]

# TAB 16

U.S. Department of Justice

*United States Attorney*
*Southern District of Florida*

*500 South Australian Ave., Suite 400*
*West Palm Beach, FL 33401*
*(561) 820-8711*
*Facsimile: (561) 820-8777*

November 16, 2006

VIA FACSIMILE
Lilly Ann Sanchez, Esq.
Fowler White Burnett
1395 Brickell Ave Fl 14
Miami Florida 33131-3300

Re: Jeffrey Epstein

Dear Ms. Sanchez:

Thank you for your letter and voicemail. I will plan to direct all correspondence to you unless you provide other instructions. In turn, please direct all future communications with the Office to my attention.

As I mentioned in my voicemail, Mr. Lewis stated that Mr. Epstein is willing to provide documents and information that we deem necessary to the investigation. I would appreciate if you would forward the documents and information listed below to my attention or, if you prefer, to Special Agent E. Nesbitt Kuyrkendall, Federal Bureau of Investigation, 500 South Flagler Drive, Suite 500, West Palm Beach, FL 33404. If you require a grand jury subpoena for any of the items, please let me know.

1. Documentation related to the ownership of the property located at 358 El Brillo Way, Palm Beach, Florida, including the purchase agreement and any mortgages, liens, or other encumbrances.

2. Documentation related to the ownership of Gulfstream Aircraft N909JE, Model G1159B, and Boeing Aircraft N908JE, Model 727-31, including purchase information, lease agreements, liens or other encumbrances, and payments for maintenance and storage.

3. All documents and information provided to the Palm Beach County State Attorney's Office in connection with its investigation of Mr. Epstein.

4. Bank information, account numbers, bank statements and billing statements for any bank accounts and/or credit cards used by Mr. Epstein (or any of his employees) to pay for Mr. Epstein's personal expenses, from January 1, 2004 to the present.

5. Information and billing statements for any "land lines," cellular telephones, Blackberry units, e-mail addresses, webpages, or the like for Mr. Epstein and all of his personal assistants (including but not limited to [redacted] and [redacted]) from January 1, 2004 to the present.

6. The computers, hard drives, CPUs, and any other computer media (including CD-ROMs, DVDs, floppy disks, flash drives, etc.) removed from 358 El Brillo Way, Palm Beach, Florida prior to the execution of the search warrant at that premises in October 2005.

7. All calendars, diaries, and address books kept by Mr. Epstein and all of his personal assistants from January 1, 2004 to the present, including electronic calendars and address books, whether stored on computer, PDA, or cellular telephone.

8. For persons in his employ at any time from January 1, 2004 to the present, employment and/or separation agreements between Mr. Epstein (or his company) and his personal assistants, airplane pilots, personal chefs, and for anyone who worked at 358 El Brillo Way, Palm Beach, Florida.

9. The names and contact information of all persons who performed "massage services" for Mr. Epstein at 358 El Brillo Way, Palm Beach, Florida or at his residences in New Albany, Ohio, Little St. James, U.S.V.I., and New York, NY; and documentation of payments made to or gifts given to any such persons.

10. Wage and earnings statements and other tax documents for all individuals referenced in items (8) and (9), *supra*.

11. Mr. Epstein's tax returns for 2004 and 2005.

12. From January 1, 2004, to the present, flight manifests and passenger lists for travel via Gulfstream Aircraft N909JE, Model G1159B and Boeing Aircraft N908JE, Model 727-31 (to the extent not already provided).

13. Documentation regarding any other interstate or international travel undertaken by Mr. Epstein from January 1, 2004, to the present, including but not limited to airplane tickets, car rental records, and hotel receipts.

After I have a chance to review the documents, I will contact you to set up a time to interview Mr. Epstein.

LILLY ANN SANCHEZ, ESQ.
NOVEMBER 16, 2006
PAGE 3 OF 3

Thank you for your assistance with this matter, and I look forward to working with you and Mr. Lefcourt.

Sincerely,

R. Alexander Acosta
United States Attorney

By: A Marie Villafaña
A. Marie Villafaña
Assistant United States Attorney

TAB 17

FD-448 (Rev. 6-2-97)

# FBI FACSIMILE

# COVER SHEET

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**PRECEDENCE**

☐ Immediate
☐ Priority
☒ Routine

**CLASSIFICATION**

☐ Top Secret
☐ Secret
☐ Confidential
☐ Sensitive
☒ Unclassified

Time Transmitted: 
Sender's Initials: jrr
Number of Pages: 5
(including cover sheet)

To: William Riley
Name of Office

Date: 06/20/2007

Facsimile Number: 954-905-4922

Attn: 
Name Room Telephone

From: FBI
Name of Office

Subject: Service of Federal Grand Jury Subpoenas

Special Handling Instructions:

Originator's Name: SA Jason Richards

Telephone: 561-833-7517

Originator's Facsimile Number: 561-833-7970

Approved:

Brief Description of Communication Faxed: Two subpoenas: 1) William Riley and 2) Custodian of Records, Riley Kiraly

**WARNING**

Information attached to the cover sheet is U.S. Government Property. If you are not the intended recipient of this information, disclosure, reproduction, distribution, or use of this information is prohibited (18.USC, § 641). Please notify the originator or the local FBI Office immediately to arrange for proper disposition.

# *United States District Court*

## *SOUTHERN DISTRICT OF FLORIDA*

TO: Custodian of Records
Riley Kiraly
Commercial Center of Miami
6135 NW 167th Street E-26
Miami, FL 33015

## SUBPOENA TO TESTIFY BEFORE GRAND JURY

FGJ 07-103(WPB)/No. OLY-64

**SUBPOENA FOR:**

☒ **PERSON** ☒ **DOCUMENTS OR OBJECT[S]**

**YOU ARE HEREBY COMMANDED** to appear and testify before the Grand Jury of the United States District Court at the place, date and time specified below.

| | |
|---|---|
| PLACE:<br>United States District Courthouse<br>701 Clematis Street<br>West Palm Beach, Florida 33401 | ROOM:<br>Grand Jury Room |
| | DATE AND TIME:<br>July 10, 2007<br>1:00 pm* |

**YOU ARE ALSO COMMANDED** to bring with you the following document(s) or object(s):

**THE DOCUMENTS AND OBJECTS LISTED ON ATTACHMENT A.**

***Please coordinate your compliance with this subpoena and confirm the date, time, and location of your appearance with S/A Nesbitt Kuyrkendall, Federal Bureau of Investigation, Telephone: (561) 822-5946.**

This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

| | |
|---|---|
| CLERK | DATE: |
| (BY) DEPUTY CLERK | June 18, 2007 |

This subpoena is issued upon application of the United States of America

AMC Villafana

Name, Address and Phone Number of Assistant U.S. Attorney
Ann Marie C. Villafaña, Assistant U.S. Attorney
500 So. Australian Avenue, Suite 400
West Palm Beach, FL 33401-6235
Tel: (561) 820-8711 x3047
Fax: (561) 802-1787

*If not applicable, enter "none."

To be used in lieu of AO110

FORM ORD-227
JAN.86

## ATTACHMENT A
## SUBPOENA TO PAUL A. LAVERY

1. All computer equipment and electronic storage media removed from the residence located at 358 El Brillo Way, Palm Beach, Florida, including but not limited to central processing units ("CPUs"), laptop computers, keyboards, printers, modems, routers, hard drives, flash drives, thumb drives, CD-Roms, DVDs, floppy diskettes, digital cameras, and memory cards.

2. All computer equipment and electronic storage media that currently belongs to, or has ever belonged to, Jeffrey Epstein, including but not limited to central processing units ("CPUs"), laptop computers, keyboards, printers, modems, routers, hard drives, flash drives, thumb drives, CD-Roms, DVDs, floppy diskettes, digital cameras, and memory cards.

3. All documents and information related to the nature of the relationship between Mr. William Riley and/or Riley Kiraly and Mr. Jeffrey Epstein, including, but not limited to, retainer agreements; employment agreements; billing statements (whether submitted directly to Mr. Epstein or to a third party for reimbursement); records of the dates when services were performed and the hours worked; telephone logs or records of dates of communications with Mr. Epstein (or with a third party on Mr. Epstein's behalf); appointment calendars/datebooks and the like (whether in hard copy or electronic form) for any period when work was performed on behalf of Mr. Epstein or when any communication was had with Mr. Epstein (or with a third party on Mr. Epstein's behalf); and records of fee arrangements and payments received for work performed on Mr. Epstein's behalf.

# *United States District Court*

*SOUTHERN DISTRICT OF FLORIDA*

TO: William Riley
Riley Kiraly
Commercial Center of Miami
6135 NW 167th Street E-26
Miami, FL 33015

## SUBPOENA TO TESTIFY BEFORE GRAND JURY

FGJ 07-103(WPB)/No. OLY-63

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☒ **PERSON** ☒ **DOCUMENTS OR OBJECT[S]**

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This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

| | |
|---|---|
| CLERK | DATE: |
| (BY) DEPUTY CLERK | June 18, 2007 |

This subpoena is issued upon application of the United States of America

AMC Villafaña

Name, Address and Phone Number of Assistant U.S. Attorney
Ann Marie C. Villafaña, Assistant U.S. Attorney
500 So. Australian Avenue, Suite 400
West Palm Beach, FL 33401-6235
Tel: (561) 820-8711 x3047
Fax: (561) 802-1787

*If not applicable, enter "none."

To be used in lieu of AO110

FORM OBD-227
JAN.86

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# TAB 18

**U.S. Department of Justice**

*United States Attorney*
*Southern District of Florida*

*500 S. Australian Ave, Ste 400*
*West Palm Beach, FL 33401*
*(561) 820-8711*
*Facsimile: (561) 820-8777*

December 13, 2007

DELIVERY BY ELECTRONIC MAIL
Jay P. Lefkowitz, Esq.
Kirkland & Ellis LLP
Citigroup Center
153 East 53rd Street
New York, New York 10022-4675

Re: Jeffrey Epstein

Dear Jay:

I am writing not to respond to your asserted "policy concerns" regarding Mr. Epstein's Non-Prosecution Agreement, which will be addressed by the United States Attorney, but the time has come for me to respond to the ever-increasing attacks on my role in the investigation and negotiations.

It is an understatement to say that I am surprised by your allegations regarding my role because I thought that we had worked very well together in resolving this dispute. I also am surprised because I feel that I bent over backwards to keep in mind the effect that the agreement would have on Mr. Epstein and to make sure that you (and he) understood the repercussions of the agreement. For example, I brought to your attention that one potential plea could result in no gain time for your client; I corrected one of your calculations of the Sentencing Guidelines that would have resulted in Mr. Epstein spending far more time in prison than you projected; I contacted the Bureau of Prisons to see whether Mr. Epstein would be eligible for the prison camp that you desired; and I told you my suspicions about the source of the press "leak" and suggested ways to avoid the press. Importantly, I continued to work with you in a professional manner even after I learned that you had been proceeding in bad faith for several weeks – thinking that I had incorrectly concluded that solicitation of minors to engage in prostitution was a registrable offense and that you would "fool" our Office into letting Mr. Epstein plead to a non-registrable offense. Even now, when it is clear that neither you nor your client ever intended to abide by the terms of the agreement that he signed, I have never alleged misconduct on your part.

The first allegation that you raise is that I "assiduously" hid from you the fact that Bert Ocariz is a friend of my boyfriend and that I have a "longstanding relationship" with Mr. Ocariz.

I informed you that I selected Mr. Ocariz because he was a friend and classmate of two people whom I respected, and that I had never met or spoken with Mr. Ocariz prior to contacting him about this case. All of those facts are true. I still have never met Mr. Ocariz, and, at the time that he and I spoke about this case, he did not know about my relationship with his friend. You suggest that I should have explicitly informed you that one of the referrals came from my "boyfriend" rather than simply a "friend," which is the term I used, but it is not my nature to discuss my personal relationships with opposing counsel. Your attacks on me and on the victims establish why I wanted to find someone whom I could trust with safeguarding the victims' best interests in the face of intense pressure from an unlimited number of highly skilled and well paid attorneys. Mr. Ocariz was that person.

One of your letters suggests a business relationship between Mr. Ocariz and my boyfriend. This is patently untrue and neither my boyfriend nor I would have received any financial benefit from Mr. Ocariz's appointment. Furthermore, after Mr. Ocariz learned more about Mr. Epstein's actions (as described below), he expressed a willingness to handle the case *pro bono*, with no financial benefit even to himself. Furthermore, you were given several other options to choose from, including the Podhurst firm, which was later selected by Judge Davis. You rejected those other options.

You also allege that I improperly disclosed information about the case to Mr. Ocariz. I provided Mr. Ocariz with a bare bones summary of the agreement's terms related to his appointment to help him decide whether the case was something he and his firm would be willing to undertake. I did not provide Mr. Ocariz with facts related to the investigation because they were confidential and instead recommended that he "Google" Mr. Epstein's name for background information. When Mr. Ocariz asked for additional information to assist his firm in addressing conflicts issues, I forwarded those questions to you, and you raised objections for the first time. I did not share any further information about Mr. Epstein or the case. Since Mr. Ocariz had been told that you concurred in his selection, out of professional courtesy, I informed Mr. Ocariz of the Office's decision to use a Special Master to make the selection and told him that the Office had made contact with Judge Davis. We have had no further contact since then and I have never had contact with Judge Davis. I understand from you that Mr. Ocariz contacted Judge Davis. You criticize his decision to do so, yet you feel that you and your co-counsel were entitled to contact Judge Davis to try to "lobby" him to select someone to your liking, despite the fact that the Non-Prosecution Agreement vested the Office with the exclusive right to select the attorney representative.

Another reason for my surprise about your allegations regarding misconduct related to the Section 2255 litigation is your earlier desire to have me perform the role of "facilitator" to convince the victims that the lawyer representative was selected by the Office to represent their interests alone and that the out-of-court settlement of their claims was in their best interests. You now state that doing the same things that you had asked me to do earlier is improper meddling in civil litigation.

Much of your letter reiterates the challenges to Detective Recarey's investigation that have already been submitted to the Office on several occasions and you suggest that I have kept that information from those who reviewed the proposed indictment package. Contrary to your suggestion, those submissions were attached to and incorporated in the proposed indictment package, so your suggestion that I tried to hide something from the reviewers is false. I also take issue with the duplicity of stating that we must accept as true those parts of the Recarey reports and witness statements that you like and we must accept as false those parts that you do not like. You and your co-counsel also impressed upon me from the beginning the need to undertake an independent investigation. It seems inappropriate now to complain because our independent investigation uncovered facts that are unfavorable to your client.

You complain that I "forced" your client and the State Attorney's Office to proceed on charges that they do not believe in, yet you do not want our Office to inform the State Attorney's Office of facts that support the additional charge nor do you want any of the victims of that charge to contact Ms. Belohlavek or the Court. Ms. Belohlavek's opinion may change if she knows the full scope of your client's actions. You and I spent several weeks trying to identify and put together a plea to federal charges that your client was willing to accept. Yet your letter now accuses me of "manufacturing" charges of obstruction of justice, making obscene phone calls, and violating child privacy laws. When Mr. Lourie told you that those charges would "embarrass the Office," he meant that the Office was unwilling to bend the facts to satisfy Mr. Epstein's desired prison sentence – a statement with which I agree.

I hope that you understand how your accusations that I imposed "ultimatums" and "forced" you and your client to agree to unconscionable contract terms cannot square with the true facts of this case. As explained in letters from Messrs. Acosta and Sloman, the indictment was postponed for more than five months to allow you and Mr. Epstein's other attorneys to make presentations to the Office to convince the Office not to prosecute. Those presentations were unsuccessful. As you mention in your letter, I –a simple line AUSA – handled the primary negotiations for the Office, and conducted those negotiations with you, Ms. Sanchez, Mr. Lewis, and a host of other highly skilled and experienced practitioners. As you put it, your group has a "combined 250 years experience" to my fourteen. The agreement itself was signed by Mr. Epstein, Ms. Sanchez, and Mr. Lefcourt, whose experience speaks for itself. You and I spent hours negotiating the terms, including when to use "a" versus "the" and other minutiae. When you and I could not reach agreement, you repeatedly went over my head, involving Messrs. Lourie, Menchel, Sloman, and Acosta in the negotiations at various times. In any and all plea negotiations the defendant understands that his options are to plead or to continue with the investigation and proceed to trial. Those were the same options that were proposed to Mr. Epstein, and they are not "persecution or intimidation tactics." Mr. Epstein chose to sign the agreement with the advice of a multitude of extremely noteworthy counsel.

You also make much of the fact that the names of the victims were not released to Mr. Epstein prior to signing the Agreement. You never asked for such a term. During an earlier meeting, where Mr. Black was present, he raised the concern that you now voice. Mr. Black and I did not have a chance to discuss the issue, but I had already conceived of a way to resolve that issue if it were raised during negotiations. As I stated, it was not, leading me to believe that it was not a matter of concern to the defense. Since the signing of the Non-Prosecution Agreement, the agents and I have vetted the list of victims more than once. In one instance, we decided to remove a name because, although the minor victim was touched inappropriately by Mr. Epstein, we decided that the link to a payment was insufficient to call it "prostitution." I have always remained open to a challenge to the list, so your suggestion that Mr. Epstein was forced to write a blank check is simply unfounded.

Your last set of allegations relates to the investigation of the matter. For instance, you claim that some of the victims were informed of their right to collect damages prior to a thorough investigation of their allegations against Mr. Epstein. This also is false. None of the victims was informed of the right to sue under Section 2255 prior to the investigation of the claims. Three victims were notified shortly after the signing of the Non-Prosecution Agreement of the general terms of that Agreement. You raised objections to any victim notification, and no further notifications were done. Throughout this process you have seen that I have prepared this case as though it would proceed to trial. Notifying the witnesses of the possibility of damages claims prior to concluding the matter by plea or trial would only undermine my case. If my reassurances are insufficient, the fact that not a single victim has threatened to sue Mr. Epstein should assure you of the integrity of the investigation.[1]

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[1] There are numerous other unfounded allegations in your letter about document demands, the money laundering investigation, contacting potential witnesses, speaking with the press, and the like. For the most part, these allegations have been raised and disproven earlier and need not be readdressed. However, with respect to the subpoena served upon the private investigator, contrary to your assertion, and as your co-counsel has already been told, I did consult with the Justice Department prior to issuing the subpoena and I was told that because I was not subpoenaing an attorney's office or an office physically located within an attorney's office, and because the business did private investigation work for individuals (rather than working exclusively for Mr. Black), I could issue a grand jury subpoena in the normal course, which is what I did. I also did not "threaten" the State Attorney's Office with a grand jury subpoena, as the correspondence with their grand jury coordinator makes perfectly clear.

With regard to your allegation of my filing the Palm Beach Police Department's probable cause affidavit "with the court knowing that the public could access it," I do not know to what you are referring. All documents related to the grand jury investigation have been filed under seal, and the Palm Beach Police Department's probable cause affidavit has never been filed with the Court. If, in fact, you are referring to the *Ex Parte* Declaration of Joseph Recarey that was filed in response to the motion to quash the grand jury subpoena, it was filed both under seal and *ex parte*, so no one should have access to it except the Court and myself. Those documents are still in the Court file only because you have violated one of the terms of the Agreement by failing to "withdraw [Epstein's] pending motion to intervene and to quash certain grand jury subpoenas."

With respect to Ms. Miller, I contacted her attorney – who was paid for by Mr. Epstein and was directed by counsel for Mr. Epstein to demand immunity – and asked only whether he still represented Ms. Miller and if he wanted me to send the victim notification letter to him. He asked what the letter would say and I told him that the letter would be forthcoming in about a week and that I could not provide him with the terms. With respect to Ms. Miller's status as a victim, you again want us to accept as true only facts that are beneficial to your client and to reject as false anything detrimental to him. Ms. Miller made a number of statements that are contradicted by documentary evidence and a review of her recorded statement shows her lack of credibility with respect to a number of statements. Based upon all of the evidence collected, Ms. Miller is classified as a victim as defined by statute. Of course, that does not mean that Ms. Miller considers herself a victim or that she would seek damages from Mr. Epstein. I believe that a number of the identified victims will not seek damages, but that does not negate their legal status as victims.

I hope that you now understand that your accusations against myself and the agents are unfounded. In the future, I recommend that you address your accusations to me so that I can correct any misunderstandings before you make false allegations to others in the Department. I hope that we can move forward with a professional resolution of this matter, whether that be by your client's adherence to the contract that he signed, or by virtue of a trial.

Sincerely,

R. Alexander Acosta
United States Attorney

By: *s/A. Marie Villafaña*
A. Marie Villafaña
Assistant United States Attorney

cc: R. Alexander Acosta, U.S. Attorney
Jeffrey Sloman, First Assistant U.S. Attorney

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You also accuse me of "broaden[ing] the scope of the investigation without any foundation for doing so by adding charges of money laundering and violations of a money transmitting business to the investigation." Again, I consulted with the Justice Department's Money Laundering Section about my analysis before expanding that scope. The duty attorney agreed with my analysis.

TAB 19

AO110 (Rev. 04/07) Subpoena to Testify Before Grand Jury

# UNITED STATES DISTRICT COURT

## SOUTHERN DISTRICT OF FLORIDA

TO:

[redacted]

**SUBPOENA TO TESTIFY**
**BEFORE GRAND JURY**
FGJ 07-103(WPB)-Tues. No. OLY-85/1

SUBPOENA FOR:
☑ PERSON ☑ DOCUMENT(S) OR OBJECT(S)

YOU ARE HEREBY COMMANDED to appear and testify before the Grand Jury of the United States District Court at the place, date, and time specified below.

| | |
|---|---|
| PLACE<br>United States District Court<br>701 Clematis Street<br>West Palm Beach, Florida 33401 | COURTROOM<br>Grand Jury Room |
| | DATE AND TIME<br>7/1/2008 10:30 am |

YOU ARE ALSO COMMANDED to bring with you the following document(s) or object(s):*

ALL DOCUMENTS AND INFORMATION REFERENCED IN THE ATTACHMENT TO THIS SUBPOENA.

☐ *Please see additional information on reverse*

This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

CLERK

(By) Deputy Clerk

| | |
|---|---|
| This subpoena is issued on application of the United States of America<br>AMCVillafaña | NAME, ADDRESS AND PHONE NUMBER OF ASSISTANT U.S. ATTORNEY<br>Ann Marie C. Villafaña, Assistant U.S. Attorney<br>500 South Australian Avenue, Suite 400<br>West Palm Beach, Florida 33401-6235<br>Tel: (561) 820-8711, ext 3047 |

* If not applicable, enter "none".

## ATTACHMENT TO GRAND JURY SUBPOENA OLY-85/1
## ADDRESSED TO [redacted]

PLEASE BRING THE FOLLOWING DOCUMENTS, ITEMS, AND INFORMATION WITH YOU TO YOUR GRAND JURY APPEARANCE:

1. Any and all notes, letters, cards, gifts, payments, photographs, or other items that you have received from Jeffrey Epstein, [redacted], [redacted], [redacted], [redacted] [redacted], Lesley Groff, Ghislaine Maxwell, and/or any other employee or associate of Jeffrey Epstein.

2. Any and all photographs, whether printed or digital, of Jeffrey Epstein, [redacted], [redacted], [redacted], [redacted], Lesley Groff, Ghislaine Maxwell, and/or any other employee or associate of Jeffrey Epstein.

3. Any and all e-mails, instant messages, chats, text messages, voicemails, or telephone messages that you have sent to and/or received from Jeffrey Epstein, [redacted], [redacted] [redacted], [redacted], [redacted], Lesley Groff, Ghislaine Maxwell, and/or any other employee or associate of Jeffrey Epstein.

4. A list of all telephone numbers (cellular and "land line"), e-mail addresses, screen names, addresses, and any other contact information that you have for the following persons during the period of January 1, 2003 to the present:

   a. yourself;
   b. Jeffrey Epstein;
   c. [redacted]
   d.
   e.
   f.
   g. Lesley Groff;
   h. Ghislaine Maxwell;
   i. any person(s) who introduced you to Jeffrey Epstein and/or Ghislaine Maxwell;
   j. any person(s) whom you introduced to Jeffrey Epstein and/or Ghislaine Maxwell;
   k. any person(s) who communicated with you to arrange appointments to meet with Jeffrey Epstein and/or Ghislaine Maxwell.

5. Any billing statements for telephone service (cellular and "land line") for any telephone you used during the period of January 1, 2003 to the present.

# TAB 20

## CONFIDENTIAL PLEA NEGOTIATIONS

## TERMS OF EPSTEIN NON-PROSECUTION AGREEMENT

- Epstein pleads guilty (not nolo contendere) to an Information filed by the Palm Beach County State Attorney's Office charging him with:
  (a) lewd and lascivious battery on a child, in violation of Fl. Stat. 800.04(4);
  (b) solicitation of minors to engage in prostitution, in violation of Fl. Stat. 796.03; and
  (c) engaging in sexual activity with minors at least sixteen years of age, in violation of Fl. Stat. 794.05.

- Epstein and the State Attorney's Office make a joint, binding recommendation that Epstein serve at least two years in prison, without any opportunity for withholding adjudication or sentencing; and without probation or community control in lieu of imprisonment.

- Epstein agrees to waive all challenges to the information filed by the State and the right to appeal.

- Epstein agrees that, if any of the victims identified in the federal investigation file suit pursuant to 18 U.S.C. § 2255, Epstein will not contest the jurisdiction of the U.S. District Court for the Southern District of Florida over his person and the subject matter. Epstein will not contest that the identified victims are persons who, while minors, were victims of violations of Title 18, United States Code, Sections(s) 2422 and/or 2423.

40

- After Epstein enters his state court plea and is sentenced, the FBI and the U.S. Attorney's Office will close their investigations into violations of 18 U.S.C. §§ 1591, 2422, and 2423.

# FEDERAL SENTENCING GUIDELINES CALCULATION
## (Using November 1, 2004 Guidelines Manual)

Each count of §§ 1591, 2422(b) and 2423(b):

| | |
|---|---|
| Base Offense Level under 2G1.3: | 24 |
| Offense involved sexual contact: | +2 |
| | 26 |

Counts do not group, so add 5 levels for more than 5 units, pursuant to 3D1.4
Offense Level 31

Apply Repeat and Dangerous Sex Offender against Minors enhancement at 4B1.5
Total Offense Level 36

Assuming Criminal History Category I, advisory guideline range is 188 - 235 months with lifetime supervised release.

# TAB 21

IN RE:
INVESTIGATION OF
JEFFREY EPSTEIN
_________________________/

# NON-PROSECUTION AGREEMENT

IT APPEARING that the City of Palm Beach Police Department and the State Attorney's Office for the 15th Judicial Circuit in and for Palm Beach County (hereinafter, the "State Attorney's Office") have conducted an investigation into the conduct of Jeffrey Epstein (hereinafter "Epstein");

IT APPEARING that the State Attorney's Office has charged Epstein by indictment with solicitation of prostitution, in violation of Florida Statutes Section 796.07;

IT APPEARING that the United States Attorney's Office and the Federal Bureau of Investigation have conducted their own investigation into Epstein's background and any offenses that may have been committed by Epstein against the United States from in or around 2001 through in or around September 2007, including:

(1) knowingly and willfully conspiring with others known and unknown to commit an offense against the United States, that is, to use a facility or means of interstate or foreign commerce to knowingly persuade, induce, or entice minor females to engage in prostitution, in violation of Title 18, United States Code, Section 2422(b); all in violation of Title 18, United States Code, Section 371;

(2) knowingly and willfully conspiring with others known and unknown to travel in interstate commerce for the purpose of engaging in illicit sexual conduct, as defined in 18 U.S.C. § 2423(f), with minor females, in violation of Title 18, United States Code, Section 2423(b); all in violation of Title 18, United States Code, Section 2423(e);

(3) using a facility or means of interstate or foreign commerce to knowingly persuade, induce, or entice minor females to engage in prostitution; in violation of Title 18, United States Code, Sections 2422(b) and 2;

(4) traveling in interstate commerce for the purpose of engaging in illicit sexual conduct, as defined in 18 U.S.C. § 2423(f), with minor females; in violation

of Title 18, United States Code, Section 2423(b); and

(5) knowingly, in and affecting interstate and foreign commerce, recruiting, enticing, and obtaining by any means a person, knowing that the person had not attained the age of 18 years and would be caused to engage in a commercial sex act as defined in 18 U.S.C. § 1591(c)(1); in violation of Title 18, United States Code, Sections 1591(a)(1) and 2; and

IT APPEARING that Epstein seeks to resolve globally his state and federal criminal liability and Epstein understands and acknowledges that, in exchange for the benefits provided by this agreement, he agrees to comply with its terms, including undertaking certain actions with the State Attorney's Office;

IT APPEARING, after an investigation of the offenses and Epstein's background by both State and Federal law enforcement agencies, and after due consultation with the State Attorney's Office, that the interests of the United States, the State of Florida, and the Defendant will be served by the following procedure;

THEREFORE, on the authority of R. Alexander Acosta, United States Attorney for the Southern District of Florida, prosecution in this District for these offenses shall be deferred in favor of prosecution by the State of Florida, provided that Epstein abides by the following conditions and the requirements of this Agreement set forth below.

If the United States Attorney should determine, based on reliable evidence, that, during the period of the Agreement, Epstein willfully violated any of the conditions of this Agreement, then the United States Attorney may, within ninety (90) days following the expiration of the term of home confinement discussed below, provide Epstein with timely notice specifying the condition(s) of the Agreement that he has violated, and shall initiate its prosecution on any offense within sixty (60) days' of giving notice of the violation. Any notice provided to Epstein pursuant to this paragraph shall be provided within 60 days of the United States learning of facts which may provide a basis for a determination of a breach of the Agreement.

After timely fulfilling all the terms and conditions of the Agreement, no prosecution for the offenses set out on pages 1 and 2 of this Agreement, nor any other offenses that have been the subject of the joint investigation by the Federal Bureau of Investigation and the United States Attorney's Office, nor any offenses that arose from the Federal Grand Jury investigation will be instituted in this District, and the charges against Epstein if any, will be dismissed.

Terms of the Agreement:

1. Epstein shall plead guilty (not nolo contendere) to the Indictment as currently pending against him in the 15th Judicial Circuit in and for Palm Beach County (Case No. 2006-cf-009495AXXXMB) charging one (1) count of solicitation of prostitution, in violation of Fl. Stat. § 796.07. In addition, Epstein shall plead guilty to an Information filed by the State Attorney's Office charging Epstein with an offense that requires him to register as a sex offender, that is, the solicitation of minors to engage in prostitution, in violation of Florida Statutes Section 796.03;

2. Epstein shall make a binding recommendation that the Court impose a thirty (30) month sentence to be divided as follows:

    (a) Epstein shall be sentenced to consecutive terms of twelve (12) months and six (6) months in county jail for all charges, without any opportunity for withholding adjudication or sentencing, and without probation or community control in lieu of imprisonment; and

    (b) Epstein shall be sentenced to a term of twelve (12) months of community control consecutive to his two terms in county jail as described in Term 2(a), *supra.*

3. This agreement is contingent upon a Judge of the 15th Judicial Circuit accepting and executing the sentence agreed upon between the State Attorney's Office and Epstein, the details of which are set forth in this agreement.

4. The terms contained in paragraphs 1 and 2, *supra*, do not foreclose Epstein and the State Attorney's Office from agreeing to recommend any additional charge(s) or any additional term(s) of probation and/or incarceration.

5. Epstein shall waive all challenges to the Information filed by the State Attorney's Office and shall waive the right to appeal his conviction and sentence, except a sentence that exceeds what is set forth in paragraph (2), *supra.*

6. Epstein shall provide to the U.S. Attorney's Office copies of all

proposed agreements with the State Attorney's Office prior to entering into those agreements.

7. The United States shall provide Epstein's attorneys with a list of individuals whom it has identified as victims, as defined in 18 U.S.C. § 2255, after Epstein has signed this agreement and been sentenced. Upon the execution of this agreement, the United States, in consultation with and subject to the good faith approval of Epstein's counsel, shall select an attorney representative for these persons, who shall be paid for by Epstein. Epstein's counsel may contact the identified individuals through that representative.

8. If any of the individuals referred to in paragraph (7), *supra*, elects to file suit pursuant to 18 U.S.C. § 2255, Epstein will not contest the jurisdiction of the United States District Court for the Southern District of Florida over his person and/or the subject matter, and Epstein waives his right to contest liability and also waives his right to contest damages up to an amount as agreed to between the identified individual and Epstein, so long as the identified individual elects to proceed exclusively under 18 U.S.C. § 2255, and agrees to waive any other claim for damages, whether pursuant to state, federal, or common law. Notwithstanding this waiver, as to those individuals whose names appear on the list provided by the United States, Epstein's signature on this agreement, his waivers and failures to contest liability and such damages in any suit are not to be construed as an admission of any criminal or civil liability.

9. Epstein's signature on this agreement also is not to be construed as an admission of civil or criminal liability or a waiver of any jurisdictional or other defense as to any person whose name does not appear on the list provided by the United States.

10. Except as to those individuals who elect to proceed exclusively under 18 U.S.C. § 2255, as set forth in paragraph (8), *supra*, neither Epstein's signature on this agreement, nor its terms, nor any resulting waivers or settlements by Epstein are to be construed as admissions or evidence of civil or criminal liability or a waiver of any jurisdictional or other defense as to any person, whether or not her name appears on the list provided by the United States.

11. Epstein shall use his best efforts to enter his guilty plea and be

sentenced not later than October 26, 2007. The United States has no objection to Epstein self-reporting to begin serving his sentence not later than January 4, 2008.

12. Epstein agrees that he will not be afforded any benefits with respect to gain time, other than the rights, opportunities, and benefits as any other inmate, including but not limited to, eligibility for gain time credit based on standard rules and regulations that apply in the State of Florida. At the United States' request, Epstein agrees to provide an accounting of the gain time he earned during his period of incarceration.

13. The parties anticipate that this agreement will not be made part of any public record. If the United States receives a Freedom of Information Act request or any compulsory process commanding the disclosure of the agreement, it will provide notice to Epstein before making that disclosure.

Epstein understands that the United States Attorney has no authority to require the State Attorney's Office to abide by any terms of this agreement. Epstein understands that it is his obligation to undertake discussions with the State Attorney's Office and to use his best efforts to ensure compliance with these procedures, which compliance will be necessary to satisfy the United States' interest. Epstein also understands that it is his obligation to use his best efforts to convince the Judge of the 15th Judicial Circuit to accept Epstein's binding recommendation regarding the sentence to be imposed, and understands that the failure to do so will be a breach of the agreement.

In consideration of Epstein's agreement to plead guilty and to provide compensation in the manner described above, if Epstein successfully fulfills all of the terms and conditions of this agreement, the United States also agrees that it will not institute any criminal charges against any potential co-conspirators of Epstein, including but not limited to [redacted], [redacted], Lesley Groff, or [redacted] Further, upon execution of this agreement and a plea agreement with the State Attorney's Office, the federal Grand Jury investigation will be suspended, and all pending federal Grand Jury subpoenas will be held in abeyance unless and until the defendant violates any term of this agreement. The defendant likewise agrees to withdraw his pending motion to intervene and to quash certain grand jury subpoenas. Both parties agree to maintain their evidence, specifically evidence requested by or directly related to the grand jury subpoenas that have been issued, and including certain computer equipment, inviolate until all of the terms of this agreement have been satisfied. Upon the successful completion of the terms of this agreement, all outstanding grand jury subpoenas shall be deemed withdrawn.

By signing this agreement, Epstein asserts and certifies that each of these terms is material to this agreement and is supported by independent consideration and that a breach of any one of these conditions allows the United States to elect to terminate the agreement and to investigate and prosecute Epstein and any other individual or entity for any and all federal offenses.

By signing this agreement, Epstein asserts and certifies that he is aware of the fact that the Sixth Amendment to the Constitution of the United States provides that in all criminal prosecutions the accused shall enjoy the right to a speedy and public trial. Epstein further is aware that Rule 48(b) of the Federal Rules of Criminal Procedure provides that the Court may dismiss an indictment, information, or complaint for unnecessary delay in presenting a charge to the Grand Jury, filing an information, or in bringing a defendant to trial. Epstein hereby requests that the United States Attorney for the Southern District of Florida defer such prosecution. Epstein agrees and consents that any delay from the date of this Agreement to the date of initiation of prosecution, as provided for in the terms expressed herein, shall be deemed to be a necessary delay at his own request, and he hereby waives any defense to such prosecution on the ground that such delay operated to deny him rights under Rule 48(b) of the Federal Rules of Criminal Procedure and the Sixth Amendment to the Constitution of the United States to a speedy trial or to bar the prosecution by reason of the running of the statute of limitations for a period of months equal to the period between the signing of this agreement and the breach of this agreement as to those offenses that were the subject of the grand jury's investigation. Epstein further asserts and certifies that he understands that the Fifth Amendment and Rule 7(a) of the Federal Rules of Criminal Procedure provide that all felonies must be charged in an indictment presented to a grand jury. Epstein hereby agrees and consents that, if a prosecution against him is instituted for any offense that was the subject of the grand jury's investigation, it may be by way of an Information signed and filed by the United States Attorney, and hereby waives his right to be indicted by a grand jury as to any such offense.

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By signing this agreement, Epstein asserts and certifies that the above has been read and explained to him. Epstein hereby states that he understands the conditions of this Non-Prosecution Agreement and agrees to comply with them.

R. ALEXANDER ACOSTA
UNITED STATES ATTORNEY

Dated: ___________ By: ___________________

A. MARIE VILLAFAÑA
ASSISTANT U.S. ATTORNEY

Dated: 9/24/07 ___________________

JEFFREY EPSTEIN

Dated: ___________ ___________________

GERALD LEFCOURT, ESQ.
COUNSEL TO JEFFREY EPSTEIN

Dated: ___________ ___________________

LILLY ANN SANCHEZ, ESQ.
ATTORNEY FOR JEFFREY EPSTEIN

By signing this agreement, Epstein asserts and certifies that the above has been read and explained to him. Epstein hereby states that he understands the conditions of this Non-Prosecution Agreement and agrees to comply with them.

R. ALEXANDER ACOSTA
UNITED STATES ATTORNEY

Dated: ___________ By: ___________________________
A. MARIE VILLAFAÑA
ASSISTANT U.S. ATTORNEY

Dated: ___________ ___________________________
JEFFREY EPSTEIN

Dated: 9/24/07 Gerald Lefcourt
GERALD LEFCOURT, ESQ.
COUNSEL TO JEFFREY EPSTEIN

Dated: ___________ ___________________________
LILLY ANN SANCHEZ, ESQ.
ATTORNEY FOR JEFFREY EPSTEIN

By signing this agreement, Epstein asserts and certifies that the above has been read and explained to him. Epstein hereby states that he understands the conditions of this Non-Prosecution Agreement and agrees to comply with them.

R. ALEXANDER ACOSTA
UNITED STATES ATTORNEY

Dated: ___________ By: ______________________________
A. MARIE VILLAFAÑA
ASSISTANT U.S. ATTORNEY

Dated: ___________ ______________________________
JEFFREY EPSTEIN

Dated: ___________ ______________________________
GERALD LEFCOURT, ESQ.
COUNSEL TO JEFFREY EPSTEIN

Dated: 9-24-07 ______________________________
LILLY ANN SANCHEZ, ESQ.
ATTORNEY FOR JEFFREY EPSTEIN

# TAB 22

**U.S. Department of Justice**

*United States Attorney*
*Southern District of Florida*

*500 South Australian Ave., Suite 400*
*West Palm Beach, FL 33401*
*(561) 820-8711*

August 31, 2007

DELIVERY BY FACSIMILE
Ms. [redacted]
In care of Bruce Lyons, Esq.
Lyons and Sanders
600 Northeast 3rd Avenue
Fort Lauderdale, FL 33304

Re: Grand Jury Investigation–Confidential

Dear [redacted]

This letter is an invitation for you to testify before a federal Grand Jury, and is supplied in order to provide helpful background information about the Grand Jury. The Grand Jury consists of from sixteen to twenty-three persons from the Southern District of Florida. It is their responsibility to inquire into federal crimes which may have been committed in this District.

As a Grand Jury witness you will be asked to testify and answer questions under oath, and to produce records and documents. Only the members of the Grand Jury, attorneys for the United States and a stenographer are permitted in the Grand Jury room while you testify.

The U.S. Department of Justice encourages prosecutors to notify an individual in appropriate cases that he or she is a target of a grand jury investigation. Accordingly, you are hereby notified that you are a target of a federal grand jury investigation in the Southern District of Florida concerning suspected violations of federal law, including but not limited to, possible violations of Title 18, United States Code, Sections 2, 371, 1512, 1591, 1952, 1956, 1960, 2421, 2422, and 2423.

You are advised that the destruction or alteration of any document required to be produced before the grand jury constitutes serious violation of federal law, including but not limited to Obstruction of Justice.

A "target" is a person as to whom the prosecutors or the Grand Jury have substantial evidence linking him or her to the commission of a crime and who, in the judgment of the prosecutors, is a putative defendant.

This letter constitutes an invitation to you to testify on your own behalf before the grand jury about matters under investigation. Of course, you are not required to appear before the grand jury. The decision whether to do so is a voluntary matter which is entirely up to you. The grand jury, if in fact it learns of this opportunity afforded to you, will be instructed not to draw any adverse inference from your failure to appear should you decide not to accept this invitation. You must further understand that should you decide to testify, your testimony could be used against you if any criminal charges should be filed against you.

Should you decide to appear before the grand jury, you will have the same rights and obligations as any non-immunized grand jury witness. Specifically,

> You may refuse to answer any question if a truthful answer to the question would tend to incriminate you.
>
> You have the right to stop answering questions at any time.
>
> Anything you say may be used against you at the grand jury or in a subsequent legal proceeding.
>
> The grand jury will permit you a reasonable opportunity to step outside the grand jury room to consult with your attorney, if you so desire, at any point during the testimony you give.

Please be further advised that the giving of false testimony before the grand jury will subject you to a prosecution for perjury in addition to the violations set forth above.

As a target of a grand jury investigation who has been asked to appear before the grand jury, you may wish to retain the services of an attorney. If you cannot afford the services of independent counsel, the Court may be able to appoint counsel to represent you. If you would like the United States to ask the Court to appoint an attorney to represent you, please contact the undersigned at 561 209-1047. The United States is investigating other individuals, and you may be interested in cooperating with the United States against those other targets. If you hire an attorney, or if the Court appoints one to represent you, that counsel can contact me to discuss that possibility.

Ms. [redacted]
August 31, 2007
Page 3

Please advise me whether you wish to testify before the grand jury by close of business Wednesday, September 12, 2007. If I do not receive notification from you or your counsel by this date, I will assume that you do not wish to testify before the grand jury.

Sincerely,
R. ALEXANDER ACOSTA
UNITED STATES ATTORNEY

By: AMarie Villafan
A. Marie Villafaña
Assistant United States Attorney

# TAB 23

**U.S. Department of Justice**

*United States Attorney*
*Southern District of Florida*

---

*500 South Australian Ave., Suite 400*
*West Palm Beach, FL 33401*
*(561) 820-8711*
*Facsimile: (561) 820-8777*

August 16, 2007

VIA FACSIMILE
Gerald Lefcourt, Esq.
Gerald P. Lefcourt, P.C.
148 East 78th Street
New York, NY 10021

Re: Subpoena to Custodian of Records, NES, LLC

Dear Mr. Lefcourt:

I write in response to your letter of July 18, 2007 regarding the grand jury subpoena issued to the Custodian of Records for NES, LLC. I have attached an identical subpoena containing a return date of September 11, 2007, and subpoenas for two NES employees, Eric Gany and Harry Beller. If you will not be representing Messrs. Gany and Beller, please let me know.

First, as I mentioned in my earlier correspondence, a properly executed declaration from the Custodian of Records is needed, and, if no documents responsive to a particular request exist, the Custodian should certify that under penalty of perjury.

Second, you write that NES has no documents responsive to Requests 1 through 5. I know that NES has several credit card accounts for the benefit of the persons who manage Mr. Epstein's properties, including Janusz Banasiak and Alfredo Rodriguez. I also know that NES regularly receives money from an account that is used to pay expenses at 358 El Brillo Way and also wires money to that same account. Those wire transfers fall within the time period called for by the subpoena and number in the hundreds of thousands of dollars. If NES does not maintain records of its banking activities, then I would like to see a copy of its document retention policy, so I have added that to the Attachment to the Subpoena.

Third, Mr. Menchel's comment to you about potential money laundering charges related only to a resolution of the case. In other words, if the sex offense case is resolved, the Office would close its investigation into other areas as well. The matter has not been, and it does not appear that it will be, resolved so the money laundering investigation continues, and Request Number 6 will not be withdrawn. The request is not overbroad and is stated with particularity, so please comply with the request by the new deadline.

With respect to paragraph 7, the information provided regarding the pilots came from the corporate records of Hyperion and JEGE, Inc., not NES. However, I have provided a shorter list in the new subpoena attachment.

I also have enclosed another certification for the Custodian of Records' signature.

Thank you again for your assistance.

Sincerely,

R. Alexander Acosta
United States Attorney

By: A Marie Villafaña
A. Marie Villafaña
Assistant United States Attorney

cc: E. Nesbitt Kuyrkendall, FBI (with enclosures)

# *United States District Court*

## *SOUTHERN DISTRICT OF FLORIDA*

TO: Custodian of Records
NES, LLC

## SUBPOENA TO TESTIFY BEFORE GRAND JURY

FGJ 07-103(WPB)/No. OLY-65/2

**SUBPOENA FOR:**
☒ PERSON ☒ DOCUMENTS OR OBJECT[S]

**YOU ARE HEREBY COMMANDED** to appear and testify before the Grand Jury of the United States District Court at the place, date and time specified below.

PLACE:
United States District Courthouse
701 Clematis Street
West Palm Beach, Florida 33401

ROOM:
Grand Jury Room

DATE AND TIME:
September 11, 2007
1:00 pm*

**YOU ARE ALSO COMMANDED** to bring with you the following document(s) or object(s):

**THE DOCUMENTS AND OBJECTS LISTED ON ATTACHMENT A.**

***Please coordinate your compliance with this subpoena and confirm the date, time, and location of your appearance with S/A Nesbitt Kuyrkendall, Federal Bureau of Investigation, Telephone: (561) 822-5946.**

This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

CLERK

(BY) DEPUTY CLERK

DATE:
August 16, 2007

This subpoena is issued upon application
of the United States of America
AMarie Villafaña

Name, Address and Phone Number of Assistant U.S. Attorney
Ann Marie C. Villafaña, Assistant U.S. Attorney
500 So. Australian Avenue, Suite 400
West Palm Beach, FL 33401-6235
Tel: (561) 820-8711 x3047
Fax: (561) 802-1787

*If not applicable, enter "none."

To be used in lieu of AO110

FORM ORD-227
JAN.86

# ATTACHMENT TO SUBPOENA OLY-65/2
# NES, LLC

1. For the period of January 1, 2003 to the present, all calendars, agendas, daily diaries, or other records of appointments, travel, meetings and the like, kept by or on behalf of Jeffrey Epstein, [redacted], [redacted] Lesley Groff, and/or [redacted]. This request includes information that is kept in physical "hard copy" and/or electronic form, whether stored on a personal computer, database server, cellular telephone, "Blackberry" unit, personal digital assistant ("PDA") or other handheld electronic device, or in any other electronic form, and all metadata included within the electronic/physical files.

2. For the period of January 1, 2003 to the present, all address books, contact lists, or other records of names, telephone numbers, addresses, and/or e-mail addresses kept by or on behalf of Jeffrey Epstein, [redacted] [redacted], Lesley Groff, and/or [redacted] This request includes information that is kept in physical "hard copy" and/or electronic form, whether stored on a personal computer, database server, cellular telephone, "Blackberry" unit, personal digital assistant ("PDA") or other handheld electronic device, or in any other electronic form, and all metadata included within the electronic/physical files.

3. For the period of January 1, 2003 to the present, all e-mails, instant messages, text messages, meeting invitations, and any other electronic communication sent by Jeffrey Epstein, [redacted], [redacted] Lesley Groff, and/or [redacted] to Jeffrey Epstein, [redacted] [redacted] Lesley Groff, and/or [redacted]. This request includes information that is kept in physical "hard copy" and/or electronic form, whether stored on a personal computer, database server, cellular telephone, "Blackberry" unit, personal digital assistant ("PDA") or other handheld electronic device, or in any other electronic form, and all metadata included within the electronic/physical files.

4. For the period of January 1, 2003 to the present, all documents and information referring or relating to the transfer of funds to or from any account owned by NES, LLC to or from any bank account used for the maintenance of the property located at 358 El Brillo Way, Palm Beach, Florida, or for the payment of any person working at 358 El Brillo Way, Palm Beach, Florida.

5. For the period of January 1, 2003 to the present, all documents and information referring or relating to the transfer of funds to or from any account owned by NES, LLC to or from any bank account on which Janusz Banasiak and/or Alfredo Rodriguez had or has check-writing authority and/or access to via debit/ATM card.

6. For the period of January 1, 2003 to the present, all documents and information referring or relating to the transfer of fund to or from any account owned by NES, LLC to or from any account owned by JEGE, Inc., Jeffrey E. Epstein, Hyperion Air, Inc., Financial Trust Co., New York Strategy Group, Inc., J. Epstein Virgin Islands Foundations, Inc., and/or Epstein Interests.

7. For the period of January 1, 2003 to the present, the names of all employees and all corporate directors, board members, and shareholders.

8. For the period of January 1, 2003 to the present, copies of all W-2s and/or 1099s for the following persons: Jeffrey Epstein, [redacted], Lesley Groff, [redacted] [redacted] [redacted] Janusz Banasiak, Alfredo Rodriguez, Harry Beller, [redacted], [redacted] and Eric T. Gany.

9. Any and all document retention and/or destruction policies.

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

IN RE FEDERAL GRAND JURY SUBPOENA
OLY-65/2
ADDRESSED TO NES, LLC
_______________________________________/

## CERTIFICATION REGARDING DOMESTIC RECORDS OF REGULARLY CONDUCTED ACTIVITY

I, the undersigned, ______________________, declare that I am employed by NES, LLC in the position of ______________________, and, by reason of my position, am authorized and qualified to make this declaration.

1. In my employment with NES, LLC, I am familiar with the business records it maintains.

2. I certify that the records attached to this certification:

   (a) were made at or near the time of the occurrence of the matters set forth therein, by or from information transmitted by, a person with knowledge of those matters;

   (b) were kept in the course of regularly conducted business activity; and

   (c) were made by the regularly conducted activity as a regular practice.

2. Among the records so maintained are the attached records itemized in Appendix A (Document Inventory).

3. I further certify that the documents attached hereto are responsive to Grand Jury Subpoena 65/2 served upon NES, LLC.

4. I further certify that NES, LLC has no documents responsive to request number(s) ________ in Grand Jury Subpoena number 65/2. [Fill in or strike out as appropriate.]

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing information is true and correct.

Executed this ________ day of ____________, 2007.

Place of execution: ____________________________

____________________________
Signature

# *United States District Court*

## *SOUTHERN DISTRICT OF FLORIDA*

TO: HARRY BELLER
NES, LLC

## SUBPOENA TO TESTIFY BEFORE GRAND JURY

FGJ 07-103(WPB)/No. OLY-75

**SUBPOENA FOR:**

☒ **PERSON** ☐ **DOCUMENTS OR OBJECT[S]**

**YOU ARE HEREBY COMMANDED** to appear and testify before the Grand Jury of the United States District Court at the place, date and time specified below.

| | |
|---|---|
| PLACE:<br>United States District Courthouse<br>701 Clematis Street<br>West Palm Beach, Florida 33401 | ROOM:<br>Grand Jury Room<br><br>DATE AND TIME:<br>September 11, 2007<br>1:00 pm* |

**YOU ARE ALSO COMMANDED** to bring with you the following document(s) or object(s):

***Please coordinate your compliance with this subpoena and confirm the date, time, and location of your appearance with S/A Nesbitt Kuyrkendall, Federal Bureau of Investigation, Telephone: (561) 822-5946.**

This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

| | |
|---|---|
| CLERK<br><br>(BY) DEPUTY CLERK | DATE:<br><br>August 16, 2007 |

| | |
|---|---|
| This subpoena is issued upon application of the United States of America<br><br>AMCVillafana | Name, Address and Phone Number of Assistant U.S. Attorney<br>Ann Marie C. Villafaña, Assistant U.S. Attorney<br>500 So. Australian Avenue, Suite 400<br>West Palm Beach, FL 33401-6235<br>Tel: (561) 820-8711 x3047<br>Fax: (561) 802-1787 |

*If not applicable, enter "none."

To be used in lieu of AO110

FORM ORD-227
JAN.86

# *United States District Court*

## *SOUTHERN DISTRICT OF FLORIDA*

TO: ERIC GANY
NES, LLC

## SUBPOENA TO TESTIFY BEFORE GRAND JURY

FGJ 07-103(WPB)/No. OLY-76

**SUBPOENA FOR:**
☒ **PERSON** ☐ **DOCUMENTS OR OBJECT[S]**

**YOU ARE HEREBY COMMANDED** to appear and testify before the Grand Jury of the United States District Court at the place, date and time specified below.

| | |
|---|---|
| PLACE:<br>United States District Courthouse<br>701 Clematis Street<br>West Palm Beach, Florida 33401 | ROOM:<br>Grand Jury Room |
| | DATE AND TIME:<br>September 11, 2007<br>1:00 pm* |

**YOU ARE ALSO COMMANDED** to bring with you the following document(s) or object(s):

***Please coordinate your compliance with this subpoena and confirm the date, time, and location of your appearance with S/A Nesbitt Kuyrkendall, Federal Bureau of Investigation, Telephone: (561) 822-5946.**

This subpoena shall remain in effect until you are granted leave to depart by the court or by an officer acting on behalf of the court.

| | |
|---|---|
| CLERK | DATE: |
| (BY) DEPUTY CLERK | August 16, 2007 |

| | |
|---|---|
| This subpoena is issued upon application of the United States of America<br>AMC Villafaña | Name, Address and Phone Number of Assistant U.S. Attorney<br>Ann Marie C. Villafaña, Assistant U.S. Attorney<br>500 So. Australian Avenue, Suite 400<br>West Palm Beach, FL 33401-6235<br>Tel: (561) 820-8711 x3047<br>Fax: (561) 802-1787 |

*If not applicable, enter "none."

To be used in lieu of AO110

FORM ORD-227
JAN.86

**U.S. Department of Justice**

*United States Attorney*
*Southern District of Florida*

---

*A. Marie Villafaña*
*500 S. Australian Ave, 4th Floor*
*West Palm Beach, Florida 33401*
*(561) 820-8711*
*Facsimile (561) 820-8777*

# FACSIMILE COVER SHEET

TO: Gerald Lefcourt, Esq.

DATE: August 16, 2007

FAX NO. 212-988-6192 # OF PAGES: 10

PHONE NO. 212-737-0400 RE: NES, LLC

---

FROM: A. MARIE VILLAFAÑA, Assistant U.S. Attorney

PHONE NO. 561-209-1047

---

COMMENTS:

TAB 24

"Villafana, Ann Marie C. \(USAFLS\)"
[redacted]

09/19/2007 12:14 PM

To "Jay Lefkowitz" [redacted]
cc
bcc
Subject RE: Meeting

History ✉ This message has been replied to.

Judge Johnson has duty next week.

Jay – I hate to have to be firm about this, but we need to wrap this up by Monday. I will not miss my indictment date when this has dragged on for several weeks already and then, if things fall apart, be left in a less advantageous position than before the negotiations. I have had an 82-page pros memo and 53-page indictment sitting on the shelf since May to engage in these negotiations. There has to be an ending date, and that date is Monday.

*A. Marie Villafaña*
Assistant U.S. Attorney
[redacted]

**From:** Jay Lefkowitz [mailto:[redacted]]
**Sent:** Wednesday, September 19, 2007 11:58 AM
**To:** Villafana, Ann Marie C. (USAFLS)
**Subject:** Re: Meeting

We may want to meet monday and potentially continue to tues if necessary. Which mag is on duty?

---

----- Original Message -----
**From:** "Villafana, Ann Marie C. \(USAFLS\)" [redacted]]
**Sent:** 09/19/2007 11:51 AM AST
**To:** Jay Lefkowitz
**Subject:** Meeting

Barry is available Monday morning. Our most flexible West Palm Beach magistrate is on duty on Monday, so, assuming we have signed documents by 1:30 or so, we should be able to get Mr. Epstein arraigned on Monday. I doubt that we will be able to get everything finished up here, get down to Miami, and try to find a Miami mag by close of business on Monday.

*A. Marie Villafaña*

Assistant U.S. Attorney

[redacted]

************************************************************

The information contained in this communication is confidential, may be attorney-client privileged, may constitute inside information, and is intended only for the use of the addressee. It is the property of Kirkland & Ellis LLP or Kirkland & Ellis International LLP. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify us immediately by return e-mail or by e-mail to postmaster@kirkland.com, and destroy this communication and all copies thereof, including all attachments.
************************************************************

# TAB 25

**"Villafana, Ann Marie C. \(USAFLS\)"** [redacted]

09/23/2007 08:04 PM

To "Jay Lefkowitz" [redacted]

cc

bcc

Subject RE: Revised agreement

1 is definitely under 18 still, and I think there is a second minor. The appointment of the guardian ad litem is to provide you with a mechanism to make contact with the girls and to give them the assistance of an independent attorney who represents them (as opposed to me, who represents the government). If you are willing to provide the girls with independent counsel, at Mr. Epstein's expense (and I get to pick the attorney), that is alright with me.

**From:** Jay Lefkowitz [mailto:[redacted]]
**Sent:** Sunday, September 23, 2007 6:55 PM
**To:** Villafana, Ann Marie C. (USAFLS)
**Subject:** Re: Revised agreement

Will do. Also, why do you need a guardian ad litem at all? Are any of the 40 under 18 now?

---

----- Original Message -----
**From:** "Villafana, Ann Marie C. \(USAFLS\)'[redacted]
**Sent:** 09/23/2007 06:52 PM AST
**To:** Jay Lefkowitz
**Subject:** Revised agreement

Hi Jay - Can you look at this? Especially paragraph 7. I think this covers the exclusive remedy concern you had.

<<070923 Epstein Non-Prosecution Agreement final.pdf>>

*********************************************************
The information contained in this communication is
confidential, may be attorney-client privileged, may
constitute inside information, and is intended only for
the use of the addressee. It is the property of
Kirkland & Ellis LLP or Kirkland & Ellis International LLP.
Unauthorized use, disclosure or copying of this
communication or any part thereof is strictly prohibited
and may be unlawful. If you have received this
communication in error, please notify us immediately by
return e-mail or by e-mail to postmaster@kirkland.com, and
destroy this communication and all copies thereof,
including all attachments.
*********************************************************

# TAB 26

"Villafana, Ann Marie C.
\(USAFLS\)" [redacted]

09/24/2007 01:27 PM

To "Jay Lefkowitz" [redacted]

cc "Martin Weinberg" [redacted] "Lourie, Andrew" [redacted] "Garcia, Rolando \(USAFLS\)" [redacted]

bcc

Subject RE: Epstein agreement as reviewed by the U.S. Attorney

History: This message has been forwarded.

Hi Jay – Sorry for the delay. The U.S. Attorney had a last-minute concern, that I think I fixed (it is in the first "It Appearing" clause following the list of statutes potentially violated).

After you get the green light, let's discuss the potential representative. The person I am thinking of has run a preliminary conflicts check and it looks alright.

Also, to address Mr. Epstein's concern regarding the list of names, I wanted to tell you that I have compiled a list of 34 confirmed minors. There are six others, whose names we already have, who need to be interviewed by the FBI to confirm whether they were 17 or 18 at the time of their activity with Mr. Epstein. Once those interviews are completed, I can finalize the list of identified victims, which I will put in a formal document that I will maintain until the time of Mr. Epstein's sentencing.

Assuming that this agreement is fine, please execute at least three copies, and send one to me by fax and the rest by FedEx. I will execute and send the copies back.

Thank you.

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

[redacted]

**From:**Jay Lefkowitz [redacted]
**Sent:** Monday, September 24, 2007 11:46 AM
**To:** Villafana, Ann Marie C. (USAFLS)
**Cc:** Martin Weinberg; Lourie, Andrew
**Subject:** Re: Epstein agreement as reviewed by the U.S. Attorney

Marie - Here are what I hope are final edits to the agreement. I will call in 15 min.
thanks -- Jay

**"Villafana, Ann Marie C. \(USAFLS\)"**
[redacted]
09/24/2007 10:13 AM

To "Jay Lefkowitz" [redacted]
cc
Subject Epstein agreement as reviewed by the U.S. Attorney

Hi Jay – Here is the agreement with Alex's edits. Thank you.

<<070924 Epstein Non-Prosecution Agreement w Acosta edits v2.pdf>>

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

070924 Final Epstein Non-Prosecution Agreement.pdf

# TAB 27

"Villafana, Ann Marie C. \(USAFLS\)" [redacted]

09/24/2007 04:34 PM

To [redacted]

cc

bcc

Subject RE: Do you have a signed copy?

Thank you, Jay. I have forwarded your message only to Alex, Andy, and Rolando. I don't anticipate it going any further than that. When I receive the originals, I will sign and return one copy to you. The other will be placed in the case file, which will be kept confidential since it also contains identifying information about the girls.

When we reach an agreement about the attorney representative for the girls, we can discuss what I can tell him and the girls about the agreement. I know that Andy promised Chief Reiter an update when a resolution was achieved. (Something I wouldn't have promised in light of what happened last year.) Rolando is calling, but Rolando knows not to tell Chief Reiter about the money issue, just about what crimes Mr. Epstein is pleading guilty to and the amount of time that has been agreed to. Rolando also is telling Chief Reiter not to disclose the outcome to anyone.

**From:** Jay Lefkowitz [redacted]
**Sent:** Monday, September 24, 2007 4:06 PM
**To:** Villafana, Ann Marie C. (USAFLS)
**Subject:** Re: Do you have a signed copy?

Marie - Please do whatever you can to keep this from becoming public.

thanks -- Jay

**"Villafana, Ann Marie C. \(USAFLS\)"** [redacted]

09/24/2007 04:04 PM

To "Jay Lefkowitz" [redacted]

cc

Subject Do you have a signed copy?

Hi Jay – Sorry to be a bother, but do you have a copy that at least contains Mr. Epstein's signature? I need to pass it along to the powers that be. Thanks.

# TAB 28

"Villafana, Ann Marie C.
\(USAFLS\)"
[redacted]
09/26/2007 11:01 AM

To "Jay Lefkowitz" [redacted]
cc
bcc
Subject RE: Other attorneys

History This message has been forwarded.

Hi Jay – Can you give me a call at [redacted] this morning? I am meeting with the agents and want to give them their marching orders regarding what they can tell the girls.

Also, please remove Babbitt and Searcy from the list. There is too great a chance of an appearance of impropriety with Babbitt and I received a bad report about Searcy last night.

Thank you.

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

---

**From:** Villafana, Ann Marie C. (USAFLS)
**Sent:** Tuesday, September 25, 2007 8:37 PM
**To:** 'Jay Lefkowitz'
**Subject:** Other attorneys

Hi Jay – These four people were recommended. I have not contacted them to find out what their rates are. All are very active in the plaintiffs' bar in the West Palm area. Ted Babbitt would be my first choice of these four but I think he is conflicted out because one of his partners is married to an AUSA here. Stuart Grossman is probably my second choice.

Ted Babbitt -- http://www.babbitt-johnson.com/tbabbitt.html

Stuart Grossman -- http://www.grossmanandroth.com/sgrossman.htm

Chris Searcy -- http://www.searcylaw.com/CHRISTIANDSEARCY/tabid/935/default.aspx

Lake Lytal, Jr. -- http://www.lytalreiter.com/index.php?page_id=37

Talk to Jack Goldberger about this group. They are all very good personal injury lawyers, but I have concerns about whether there would be an inherent tension because they may feel that THEY might make more money (and get a lot more press coverage) if they proceed outside the terms of the plea agreement. (Sorry – I just have a bias against plaintiffs' attorneys.) One nice thing about Bert is that he is in Miami where there has been almost no coverage of this case.

Just so you know, I have never met Bert, but a good friend in our appellate section and one of the district judges in Miami are good friends with him and recommended him.

Can you let me know tomorrow? I am going to be out for a while starting on Friday, and I would like to get this underway before I leave.

Thank you.

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

# TAB 29

"Villafana, Ann Marie C. (USAFLS)"
[redacted]
10/05/2007 07:48 AM

To "Jay Lefkowitz" [redacted]
cc
bcc
Subject RE: Proposed Letter to Special Master

History This message has been replied to and forwarded.

Good morning, Jay. We need to resolve the attorney issue today. It has been weeks since execution of the contract, and there is no need for further delay.

As far as the five attorney names that we will be providing, I propose Bert Ocariz, Katherine Ezell at Podhurst Orseck, Stuart Grossman, Ed Rogers, and Walter Cobath.

If you would like to use the same Special Master to resolve fees disputes as well as to handle the selection of the attorney, I would recommend that we use retired 11th Circuit Judge Joseph Hatchett instead of Judge Davis because of Judge Davis's health problems. (No one has contacted Judge Hatchett yet, but one of the District Judges in Miami mentioned him as a good choice.)

I am available for a conference call between 9:00 and 10:00, and between 3:15 and 6:00. Please call me on my cell [redacted] and let me know which of those times works best for you.

Thank you.

---

From: Jay Lefkowitz [redacted]
Sent: Wed 10/3/2007 4:26 PM
To: Villafana, Ann Marie C. (USAFLS)
Subject: Re: Proposed Letter to Special Master

Marie - I, too, am interested in speed. But I really need to go over this and then discuss with Jeffrey. So please do not send this to any Special Master before we discuss the next steps.

Thanks -- Jay

"Villafana, Ann Marie C. (USAFLS)" <[redacted]

10/03/2007 04:24 PM

To
"Jay Lefkowitz" [redacted]
cc
Subject
Proposed Letter to Special Master

Hi Jay - To move things along, I also have enclosed the proposed text of a letter to the Special Master.

<<PROPOSED Letter to Special Master.pdf>>

A. Marie Villafaña

Assistant U.S. Attorney

[redacted]

TAB 30

"Villafana, Ann Marie C. (USAFLS)"
[redacted]
09/27/2007 03:06 PM

To [redacted]
cc
bcc
Subject RE: Conference Call with Bert Ocariz

History: This message has been forwarded.

Hi Jay – I already told Bert that there is no indictment and, as I mentioned, he doesn't really need to/want to see the entire plea agreement, just the relevant paragraphs so that he understands what the scope of his representation will be. I think they would be happy knowing that their hourly rate will be paid when it is billed. The concern is, if all 40 girls decide they want to sue, they don't want to be in a situation where Mr. Epstein says this is getting too expensive, we won't pay any more attorneys' fees.

Two suggestions, that I haven't run past Bert, are:

1. Mr. Epstein signs a standard fee agreement, where one of his attorneys or accountants who is not working on the damages litigation receives a monthly bill with attorney's fees charged at an hourly rate and costs billed monthly. The bills will have any privileged information redacted. If there is a dispute about a bill that cannot be resolved, it will be submitted to a mediator for resolution.

2. If that is too open-ended for Mr. Epstein, do the hourly/monthly billing until Bert has had a chance to confer with all of the girls to determine how many want him to represent them. Once it is known how many girls will be represented by Bert, and maybe who those girls are, there can be a more educated discussion about estimated fees and costs.

Just some food for thought. I will be out of the office tomorrow, but I will be reachable by cell phone. I will make sure Bert is available and confirm the time with you.

*A. Marie Villafaña*
Assistant U.S. Attorney
500 S. Australian Ave, Suite 400
West Palm Beach, FL 33401
[redacted]

**From:** Jay Lefkowitz [redacted]
**Sent:** Thursday, September 27, 2007 2:53 PM
**To:** Villafana, Ann Marie C. (USAFLS)
**Subject:** Re: Conference Call with Bert Ocariz

Marie - I will not be able to get back to you until tomorrow. However, some of the questions he raised cause me some serious concern.

1. Can we get a copy of the indictment (or can you tell me the nature of the crimes against the girls)?

Certainly he should not get a copy of any indictment.

2. When will it be possible to see the plea agreement so that we understand exactly what Epstein concedes to in the civil case?

I don't think he should get the plea agreement either.

3. Is there any cap or other limitation on attorney's fees that the defendant will pay in the civil case?

I can't imagine he would be entitled to anything other than an hourly fee.

4. What is the contemplated procedure for, and timing of, the payment of attorney's fees and costs?

In any event, I need to consider these issues carefully and I cannot agree to any of these issues before we speak. I would suggest we plan on talking tomorrow at 12 pm if you are available.

Jay

----- Original Message -----
**From:** "Villafana, Ann Marie C. (USAFLS)" [redacted]
**Sent:** 09/27/2007 10:51 AM AST
**To:** Jay Lefkowitz
**Subject:** Conference Call with Bert Ocariz

Hi Jay – Bert's firm has raised a number of good questions about how they are going to get paid and setting up a procedure that avoids any conflict of interest with their clients. Are you around today to do a conference call? Let me know what times work for you because Bert wants to get their conflicts counsel on the call with us.

These are some of the questions he sent to me. I told Bert that as part of our agreement we (the federal government) are not going to indict Mr. Epstein, but gave him an idea of the charges that we had planned to bring as related to 18 USC 2255. With respect to question 2, do I have your permission to send Bert just that section of the plea agreement that applies to the damages claims (I would recommend sending paragraphs 7 through 10, or at least 7 and 8)? Can you talk with your client about items 3 and 4? I envisioned Shook Hardy sending regular bills to you, with any privileged information redacted, and being paid like every other client pays the bills.

1. Can we get a copy of the indictment (or can you tell me the nature of the crimes against the girls)?

2. When will it be possible to see the plea agreement so that we understand exactly what Epstein concedes to in the civil case?

3. Is there any cap or other limitation on attorney's fees that the defendant will pay in the civil case?

4. What is the contemplated procedure for, and timing of, the payment of attorney's fees and costs?

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

***********************************************************
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TAB 31

**Inside the Bar**

**Find a Lawyer**

# Jeffrey Marc Herman

**Member in Good Standing** **Eligible to practice in Florida**

ID Number: 521647

Address:
Herman & Mermelstein P A
18205 Biscayne Blvd Ste 2218
North Miami Beach, Florida
331602148
United States

Phone: 305.9312200

E-Mail: jherman@hermanlaw.com

County: Miami-Dade

Circuit: 11

Admitted: 12/26/1985

10-Year Discipline History: **None**

Firm: Herman Sloman & Mermelstein PA

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[Updated: 03-05-2008 ]

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# TAB 32

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

CASE NO.: **08-80069**

**CIV-MARRA**

**MAGISTRATE JUDGE JOHNSON**

FILED by INTAKE ______ D.C.
JAN 24 2008
CLARENCE MADDOX
CLERK U.S. DIST. CT.
S.D. OF FLA. • FT. LAUD.

JANE DOE NO. 1, by and through
JANE DOE's FATHER as parent and natural
guardian, and JANE DOE's FATHER, and
JANE DOE's STEPMOTHER, individually,

Plaintiffs,

vs.

JEFFREY EPSTEIN,

Defendant.
_________________________________/

## COMPLAINT

Plaintiff, Jane Doe No. 1 ("Jane" or "Jane Doe"), by and through Jane Doe's Father as parent and natural guardian, and Jane Doe's Father and Jane Doe's Stepmother, individually, bring this Complaint against Jeffrey Epstein, as follows:

### Parties, Jurisdiction and Venue

1. Jane Doe is a citizen and resident of the State of Florida. She is a minor under the age of 18 years.

2. Jane Doe's Father brings this action individually and as parent and natural guardian of Jane Doe. Jane Doe's Father is a citizen and resident of the State of Florida.

3. Jane Doe's Stepmother brings this action individually. Jane Doe's Stepmother is a citizen and resident of the State of Florida.

4. This Complaint is brought under fictitious names to protect the identity of the Minor Plaintiff because this Complaint makes sensitive allegations of sexual assault and abuse upon a

minor.

5. Defendant Jeffrey Epstein is a citizen and resident of the State of New York.

6. This is an action for damages in excess of $50 million.

7. This Court has jurisdiction of this action and the claims set forth herein pursuant to 28 U.S.C. §1332(a), as the matter in controversy (i) exceeds $75,000, exclusive of interest and costs; and (ii) is between citizens of different states.

8. This Court has venue of this action pursuant to 28 U.S.C. §1391(a) as a substantial part of the events or omissions giving rise to the claim occurred in this District.

## **Factual Allegations**

9. At all relevant times, Defendant Jeffrey Epstein ("Epstein") was an adult male, 52 years old. Epstein is a financier and money manager with a secret clientele limited exclusively to billionaires. He is himself a man of tremendous wealth, power and influence. He maintains his principal home in New York and also owns residences in New Mexico, St. Thomas and Palm Beach, FL. The allegations herein concern Epstein's conduct while at his lavish estate in Palm Beach.

10. Upon information and belief, Epstein has a sexual preference and obsession for underage minor girls. He engaged in a plan and scheme in which he gained access to primarily economically disadvantaged minor girls in his home, sexually assaulted these girls, and then gave them money. In or about 2005, Jane Doe, then 14 years old, fell into Epstein's trap and became one of his victims.

11. Upon information and belief, Jeffrey Epstein carried out his scheme and assaulted girls in Florida, New York and on his private island, known as Little St. James, in St. Thomas.

12. An integral player in Epstein's Florida scheme was Haley Robson, a Palm Beach

Community College student from Loxahatchee, Florida. She recruited girls ostensibly to give a wealthy man a massage for monetary compensation in his Palm Beach mansion. Under Epstein's plan, Ms. Robson would be contacted when Epstein was planning to be at his Palm Beach residence or soon after he had arrived there. Epstein or someone on his behalf directed Ms. Robson to bring one or more underage girls to the residence. Ms. Robson, upon information and belief, generally sought out economically disadvantaged underage girls from Loxahatchee and surrounding areas who would be enticed by the money being offered - generally $200 to $300 per "massage" session - and who were perceived as less likely to complain to authorities or have credibility if allegations of improper conduct were made. This was an important element of Epstein's plan.

13. Epstein's plan and scheme reflected a particular pattern and method. Upon arrival at Epstein's mansion, Mr. Robson would introduce each victim to Sarah Kellen, Epstein's assistant, who gathered the girl's personal information, including her name and telephone number. Ms. Kellen would then bring the girl up a flight of stairs to a bedroom that contained a massage table in addition to other furnishings. There were photographs of nude women lining the stairway hall and in the bedroom. Ms. Kellen would then leave the girl alone in this room, whereupon Epstein would enter wearing only a towel. He would then remove his towel, lay down naked on the massage table, and direct the girl to remove her clothes. He then would perform one or more lewd, lascivious and sexual acts, including masturbation and touching the girl's vagina with a vibrator.

14. Consistent with the foregoing plan and scheme, Ms. Robson recruited Jane Doe to give Epstein a massage for monetary compensation. Ms. Robson brought Jane to Epstein's mansion in Palm Beach. Jane was introduced to Sarah Kellen, who led her up the flight of stairs to the room with the massage table. She was alone in the room when Epstein arrived wearing only a towel. He

removed his towel, and laid down naked on the massage table. He demanded that Jane remove her clothes. In shock, fear and trepidation, Jane complied, removing her clothes except for her underwear. Epstein then sexually assaulted Jane.

15. After Epstein had completed the assault, he left the room. Jane was then able to get dressed, leave the room and go back down the stairs. She then met Ms. Robson again who brought Jane home. Jane was paid $300 by Epstein. Ms. Robson was paid $200 by Epstein for bringing Jane to him.

16. As a result of this encounter with Epstein, the 14-year old Jane experienced confusion, shame, humiliation, embarrassment and the assault sent her life into a downward spiral.

## COUNT I
## Sexual Assault

17. Plaintiff Jane Doe by and through her Father, as parent and natural guardian, repeats and realleges paragraphs 1 through 16 above.

18. Epstein tortiously assaulted Jane Doe sexually in or about 2005.

19. This sexual assault was in violation of Chapter 800 of the Florida Statutes, which recognizes as a crime the lewd and lascivious acts committed by Epstein upon Jane.

20. As a direct and proximate result of Epstein's assault on Jane, she has suffered and will continue to suffer severe and permanent traumatic injuries, including mental, psychological and emotional damages.

WHEREFORE, Plaintiff Jane Doe, by and through her Father, as parent and natural guardian, demands judgment against Defendant Jeffrey Epstein for compensatory damages, punitive damages, costs, and such other and further relief as this Court deems just and proper.

## COUNT II
## Intentional Infliction of Emotional Distress

21. Plaintiffs Jane Doe by and through her Father, as parent and natural guardian, Jane Doe's Father and Jane Doe's Stepmother, individually, repeat and reallege paragraphs 1 through 16 above.

22. Epstein's conduct was intentional or reckless.

23. Epstein's conduct was outrageous, going beyond all bounds of decency.

24. Epstein's conduct caused severe emotional distress not only to Jane Doe, but also to her parents, Jane Doe's Father and Jane Doe's Stepmother. Epstein knew or had reason to know that his intentional and outrageous conduct would cause emotional trauma and damage to Jane Doe's parents.

25. As a direct and proximate result of Epstein's intentional or reckless conduct, Jane Doe, Jane Does' Father and Jane Doe's Stepmother have suffered and will continue to suffer severe mental anguish and pain.

WHEREFORE, Plaintiffs Jane Doe by and through her Father, as parent and natural guardian, Jane Doe's Father and Jane Doe's Stepmother demand judgment against Defendant Jeffrey Epstein for compensatory damages, costs, punitive damages, and such other and further relief as this Court deems just and proper.

## COUNT III
## Loss of Parental Consortium

26. Plaintiff Jane Doe's Father repeats and realleges paragraphs 1 through 16 above.

27. Epstein's tortious conduct is the direct and proximate cause of damages to Jane Doe's Father, consisting of parental loss of comfort, companionship and society and healthcare costs

associated with the treatment of Jane.

28. Jane Doe's Father experienced and will continue to experience great mental anguish, pain and suffering from the time that Defendant's tortious conduct occurred.

WHEREFORE, Plaintiff Jane Doe's Father demands judgment for loss of consortium damages, costs and such other and further relief as this Court deems proper.

## JURY TRIAL DEMAND

Plaintiffs demand a jury trial in this action.

Dated: January 24, 2008

Respectfully submitted,

HERMAN & MERMELSTEIN, P.A.
*Attorneys for Plaintiffs*
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FILED by VT D.C.
ELECTRONIC

March 5, 2008

STEVEN M. LARIMORE
CLERK U.S. DIST. CT.
S.D. OF FLA. - MIAMI

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA

CASE NO.:

**08-CV-80232-Marra-Johnson**

JANE DOE NO. 3,

Plaintiff,

vs.

JEFFREY EPSTEIN,

Defendant.

_______________________________/

## COMPLAINT

Plaintiff, Jane Doe No.3 ("Jane" or "Jane Doe"), brings this Complaint against Jeffrey Epstein, as follows:

### Parties, Jurisdiction and Venue

1. Jane Doe is a citizen and resident of the State of Florida, and is sui juris.

2. This Complaint is brought under a fictitious name to protect the identity of the Plaintiff because this Complaint makes sensitive allegations of sexual assault and abuse upon her when she was a minor.

3. Defendant Jeffrey Epstein is a citizen and resident of the State of New York.

4. This is an action for damages in excess of $50 million.

5. This Court has jurisdiction of this action and the claims set forth herein pursuant to 28 U.S.C. §1332(a), as the matter in controversy (i) exceeds $75,000, exclusive of interest and costs; and (ii) is between citizens of different states.

6. This Court has venue of this action pursuant to 28 U.S.C. §1391(a) as a substantial part of the events or omissions giving rise to the claim occurred in this District.

## Factual Allegations

7. At all relevant times, Defendant Jeffrey Epstein ("Epstein") was an adult male, 52 years old. Epstein is a financier and money manager with a secret clientele limited exclusively to billionaires. He is himself a man of tremendous wealth, power and influence. He maintains his principal home in New York and also owns residences in New Mexico, St. Thomas and Palm Beach, FL. The allegations herein concern Epstein's conduct while at his lavish estate in Palm Beach.

8. Upon information and belief, Epstein has a sexual preference and obsession for underage minor girls. He engaged in a plan and scheme in which he gained access to primarily economically disadvantaged minor girls in his home, sexually assaulted these girls, and then gave them money. In or about 2004-2005, Jane Doe, then 16 years old, fell into Epstein's trap and became one of his victims.

9. Upon information and belief, Jeffrey Epstein carried out his scheme and assaulted girls in Florida, New York and on his private island, known as Little St. James, in St. Thomas.

10. An integral player in Epstein's Florida scheme was Haley Robson, a Palm Beach Community College student from Loxahatchee, Florida. She recruited girls ostensibly to give a wealthy man a massage for monetary compensation in his Palm Beach mansion. Under Epstein's plan, Ms. Robson would be contacted when Epstein was planning to be at his Palm Beach residence or soon after he had arrived there. Epstein or someone on his behalf directed Ms. Robson to bring one or more underage girls to the residence. Ms. Robson, upon information and belief, generally sought out economically disadvantaged underage girls from Loxahatchee and surrounding areas who would be enticed by the money being offered - generally $200 to $300 per "massage" session - and who were perceived as less likely to complain to authorities or have credibility if allegations of

improper conduct were made. This was an important element of Epstein's plan.

11. Epstein's plan and scheme reflected a particular pattern and method. Upon arrival at Epstein's mansion, the victim would be brought to the kitchen. She would then be led up a flight of stairs to a bedroom that contained a massage table in addition to other furnishings. Once the girl was alone in this room, Epstein would enter wearing only a towel to cover his private area. He then would lay down on the massage table and perform one or more lewd, lascivious and sexual acts, including masturbation and touching the girl sexually.

12. Consistent with the foregoing plan and scheme, Ms. Robson recruited Jane Doe to give Epstein a massage for monetary compensation. Ms. Robson brought Jane to Epstein's mansion in Palm Beach. Jane was led up the flight of stairs to the room with the massage table. She was alone in the room when Epstein arrived wearing a towel to cover his private parts. He laid down on the massage table, and sexually assaulted Jane Doe during the massage. In addition, Jeffrey Epstein masturbated during the massage.

13. After Epstein had completed the assault, he left the room. Jane was then able to leave the room and go back down the stairs. She then met Ms. Robson again who brought Jane home. Jane was paid $200 by Epstein. Ms. Robson was also paid by Epstein for bringing Jane to him.

14. As a result of this encounter with Epstein, the 16-year old Jane experienced trauma, shock, confusion, shame, humiliation and embarrassment.

## COUNT I
## Sexual Assault

15. Plaintiff Jane Doe repeats and realleges paragraphs 1 through 14 above.

16. Epstein tortiously assaulted Jane Doe sexually in or about 2004-2005. Epstein's acts were intentional, unlawful, offensive and harmful.

17. Epstein's plan and scheme in which he committed such acts upon Jane Doe were done willfully and maliciously.

18. This sexual assault was in violation of Chapter 800 of the Florida Statutes, which recognizes as a crime the lewd and lascivious acts committed by Epstein upon Jane.

19. As a direct and proximate result of Epstein's assault on Jane, she has suffered and will continue to suffer severe and permanent traumatic injuries, including mental, psychological and emotional damages.

WHEREFORE, Plaintiff Jane Doe, demands judgment against Defendant Jeffrey Epstein for compensatory damages, punitive damages, costs, and such other and further relief as this Court deems just and proper.

## COUNT II
## Intentional Infliction of Emotional Distress

20. Plaintiffs Jane Doe repeats and realleges paragraphs 1 through 14 above.

21. Epstein's conduct was intentional or reckless.

22. Epstein's conduct was outrageous, going beyond all bounds of decency.

23. Epstein's conduct caused severe emotional distress to Jane Doe. Epstein knew or had reason to know that his intentional and outrageous conduct would cause emotional trauma and damage to Jane Doe.

24. As a direct and proximate result of Epstein's intentional or reckless conduct, Jane Doe has suffered and will continue to suffer severe mental anguish and pain.

WHEREFORE, Plaintiff Jane Doe demands judgment against Defendant Jeffrey Epstein for compensatory damages, costs, punitive damages, and such other and further relief as this Court deems just and proper.

## JURY TRIAL DEMAND

Plaintiffs demand a jury trial in this action.

Dated: March 4, 2008

Respectfully submitted,

HERMAN & MERMELSTEIN, P.A.
*Attorneys for Plaintiffs*
18205 Biscayne Blvd.
Suite 2218
Miami, Florida 33160
Tel: 305-931-2200
Fax: 305-931-0877

By:____________________
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Stuart S. Mermelstein
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Florida Bar No. 947245
Adam D. Horowitz
Florida Bar No. 376980
ahorowitz@hermanlaw.com

Original

# CIVIL COVER SHEET

The JS-44 civil cover sheet and the information contained herein neither replace nor supplement the filing, and service of pleading or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of the Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

| | |
|---|---|
| I(a) PLAINTIFFS<br>**JANE DOE NO. 3,** | DEFENDANTS<br>**JEFFREY EPSTEIN** |
| (b) COUNTY OF RESIDENCE OF FIRST LISTED PLAINTIFF PALM BEACH COUNTY<br>(EXCEPT IN U.S. PLAINTIFF CASES) | COUNTY OF RESIDENCE OF FIRST LISTED DEFENDANT NEW YORK<br>(IN U.S. PLAINTIFF CASES ONLY) |
| (c) ATTORNEYS (FIRM NAME, ADDRESS, AND TELEPHONE NUMBER)<br>**Herman & Mermelstein, P.A., 18205 Biscayne Blvd., Suite 2218, Miami, FL 33160, (305) 931-2200** | ATTORNEYS (IF KNOWN) |

**(d) CIRCLE COUNTY WHERE ACTION AROSE:** PALM BEACH 9:08CV 80232-KAM-Johnson

**II. BASIS OF JURISDICTION**

(PLACE AN X ONE BOX ONLY)

☐ 1. U.S. Government Plaintiff

☐ 3. Federal Question (U.S. Government Not a Party)

☐ 2. U.S. Government Defendant

X 4. Diversity (Indicate Citizenship of Parties in Item III)

**III. CITIZENSHIP OF PRINCIPAL PARTIES**

(For Diversity Case Only)

PLACE AN X IN ONE BOX FOR PLAINTIFF AND ONE FOR DEFENDANT

| | PTF | DEF |
|---|---|---|
| Citizen of This State | X 1 | ☐ 1 |
| Citizen of Another State | ☐ 2 | x 2 |
| Citizen or Subject of a Foreign Country | ☐ 3 | ☐ 3 |
| Incorporated of Principal Place of Business in This State | ☐ 4 | ☐ 4 |
| Incorporated and Principal Place of Business in Another State | ☐ 5 | ☐ 5 |
| Foreign Nation | ☐ 6 | ☐ 6 |

**IV. CAUSE OF ACTION** (CITE THE U.S. CIVIL STATUTE UNDER WHICH YOU ARE FILING AND WRITE A BRIEF STATEMENT OF CAUSE. DO NOT CITE JURISDICTIONAL STATUTES UNLESS DIVERSITY.)
**DIVERSITY ACTION UNDER 28 U.S.C. §1332(a) FOR SEXUAL ASSAULT**

**IVa. 5 days estimated (for both sides) to try entire case**

**V. NATURE OF SUIT** (PLACE AN X IN ONE BOX ONLY)

**A CONTRACT**

- ☐ 110 Insurance
- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans) B
- ☐ 153 Recovery of Overpayment of Veteran's Benefits B
- ☐ 160 Stockholder's Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability

**A TORTS**

PERSONAL INJURY

- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- [✓ X 360 Other Personal Injury]
- ☐ 362 Personal Injury-Med Malpractice
- ☐ 365 Personal Injury-Product Liability
- ☐ 368 Asbestos Personnel Injury Product Liability

PERSONAL PROPERTY

- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending B
- ☐ 380 Other Personnel Property Damage
- ☐ 385 Property Damage Product Liability

**B FORFEITURE PENALTY**

- ☐ 610 Agriculture
- ☐ 620 Other Food & Drug
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 630 Liquor Laws
- ☐ 640 R.R. & Truck
- ☐ 650 Airline Regs
- ☐ 660 Occupational Safety/Health
- ☐ 690 Other

**A BANKRUPTCY**

- ☐ 422 Appeal 28 USC 158
- ☐ 423 Withdrawal 28 USC 157

**A PROPERTY RIGHTS**

- ☐ 820 Copyrights
- ☐ 830 Patent
- ☐ 840 Trademark

**B SOCIAL SECURITY**

- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

**A FEDERAL TAX SUITS**

- ☐ 870 Taxes (U.S. Plaintiff or Defendant)
- ☐ 871 IRS-Third Party 28 USC 7609

**A OTHER STATUS**

- ☐ 400 Status Reappointment
- ☐ 410 Antitrust
- ☐ 430 Banks and Banking
- ☐ 450 Commerce/ICC Rates/etc. B
- ☐ 460 Deportation
- ☐ 470 Racketeer Influenced and Corrupt Organizations
- ☐ 810 Selective Service
- ☐ 850 Securities/ Commodities/ Exchange
- ☐ 875 Customer Challenge 12USC3410
- ☐ 891 Agricultural Acts
- ☐ 892 Economic Stabilization Act
- ☐ 893 Environmental Matters
- ☐ 894 Energy Allocation Act
- ☐ 895 Freedom of Information Act
- ☐ 900 Appeal of Fee Determination Under Equal Access to Justice
- ☐ 950 Constitutionality of State Statutes
- ☐ 890 Other Statutory Actions* *A or B

Declaratory relief and state law claims for defamation

**A REAL PROPERTY**

- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure B
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

**A CIVIL RIGHTS**

- ☐ 441 Voting
- ☐ 442 Employment
- ☐ 443 Housing/Accommodations
- ☐ 444 Welfare
- ☐ 440 Other Civil Rights

**B PRISONER PETITIONS**

- ☐ 510 Motions to Vacate Sentence Habeas Corpus
- ☐ 530 General*
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other*
- ☐ 550 Civil Rights *A or B

**A LABOR**

- X 710 Fair Labor Standards Act
- ☐ 720 Labor Management Relations B
- ☐ 730 Labor Management Reporting & Disclosure Act
- ☐ 740 Railway Labor Act
- ☐ 790 Other Labor Litigation
- ☐ 791 Employee Ret. Inc. Security Act B

**VI. ORIGIN**

x 1. Original Proceeding ☐ 2. Removed from State Court ☐ 3. Remanded from Appellate Court ☐ 4. Refilled ☐ 5. Transferred from another district (Specify) ☐ 6. Multidistrict Litigation ☐ 7. Appeal to District Judge from Magistrate Judgment

FILED by INTAKE D.C.
MAR -5 2008
CLARENCE MADDOX
CLERK U.S. DIST. CT.
S.D. OF FLA. - FT. LAUD.

**VII. REQUESTED IN COMPLAINT** CHECK IF THIS IS A ☐ UNDER F.R.C.P. 23 ☐ **CLASS ACTION** **DEMAND $** ☐ Check YES only if demanded in complaint: **JURY DEMAND:** X YES ☐ NO

**VIII. RELATED CASE(S) IF ANY** (See Instructions): **(SEE ATTACHED)** JUDGE KENNETH A. MARRA DOCKET NUMBER 08-CV-80119-MARRA-JOHNSON
Jane Doe 2 v. Jeffrey Epstein

DATE 3-4-08 SIGNATURE OF ATTORNEY OF RECORD

UNITED STATES DISTRICT COURT
S/F 1-2
REV. 9/94

FOR OFFICE USE ONLY: Receipt No. ______ Amount: 350.00
Date Paid: ______ M/ifp: ______

542467

# TAB 33

PalmBeachPost.com

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# Another suit alleges sex during massage

UPDATED WEEKLY
Browse Specials & Deals From Local Dealerships
Autos
PalmBeachPost.com

By LARRY KELLER

Palm Beach Post Staff Writer

Thursday, March 06, 2008

WEST PALM BEACH — Another woman filed a federal lawsuit against Jeffrey Epstein on Wednesday, alleging that he turned a massage she gave him at his Palm Beach mansion into a sexual episode when she was 16 years old.

Identified as "Jane Doe No. 3," she is seeking more than $50 million, the same as two other "Jane Does" who filed similar lawsuits in the past six weeks. All three suits were filed by Miami lawyer Jeffrey Herman.

Herman subsequently withdrew the first Jane Doe's lawsuit because of squabbling by her parents over the litigation. The girl may refile the suit after she turns 18 in May and can make her own decisions, Herman said.

Other alleged victims also have contacted him, Herman said. "I do anticipate more cases," he said.

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Fugitives | Sex offenders
Behind The Yellow Tape *Post* crime blog
More local news
Latest breaking news, photos and all of today's *Post* stories.
Share This Story

In the latest litigation, Jane Doe No. 3 alleges that she was recruited by a former college student, Haley Robson, to give Epstein a massage for money at his waterfront home late in 2004 or early in 2005.

The lawsuit alleges that, while on the massage table, Epstein sexually touched Jane Doe No. 3, then masturbated. She is suing on grounds of sexual assault and intentional infliction of emotional distress.

"She felt intimidated. She felt scared," Herman said. Jane Doe No. 3 made only the one visit to Epstein's home, he said.

"It's just another copycat lawsuit filed by the same lawyer who appears less interested in the truth than in grandstanding with these press conferences," said Jack Goldberger, one of Epstein's attorneys. "We now have sworn testimony that girls lied about their age to Jeffrey Epstein, and they were careful in being convincing that they were over the age of 18."

Herman said Robson instructed Jane Doe No. 3, "When he asks how old you are, tell him 18 or 19 years old." But he said it doesn't matter. "They were underage girls," Herman said. "They were sexually assaulted."

In addition to the civil lawsuits, Epstein was indicted on a single count of felony solicitation of prostitution in July 2006 after a lengthy Palm Beach Police Department investigation into his activities with underage girls at his home. A resolution has been delayed continually. The case is on Monday's court docket but is expected to be rescheduled once again.

"One of the reasons (Jane Doe No. 3) came forward is she is tired of waiting for justice," Herman said.

**Find this article at:**
http://www.palmbeachpost.com/localnews/content/local_news/epaper/2008/03/06/s3b_epstein_0306.html?cxtype=rss&cxsvc=7&cxcat=76

☐ Check the box to include the list of links referenced in the article.

# TAB 34

Jay Lefkowitz/New York/Kirkland-Ellis
Sent by: Kristin Andersen/New York/Kirkland-Ellis

12/12/2007 04:20 PM

To Ami Sheth/New York/Kirkland-Ellis@K&E
cc Eugene Kornel/New York/Kirkland-Ellis@K&E
bcc
Subject Fw: Epstein

----- Forwarded by Kristin Andersen/New York/Kirkland-Ellis on 12/12/2007 04:19 PM -----

"Sloman, Jeff (USAFLS)"
[redacted]
11/27/2007 01:55 PM

To "Jay Lefkowitz" [redacted]
cc "Acosta, Alex (USAFLS)" [redacted]
Subject Epstein

Jay,

Please accept my apologies for not getting back to you sooner but I was a little under the weather yesterday. I hope that you enjoyed your Thanksgiving.

Regarding the issue of due diligence concerning Judge Davis' selection, I'd like to make a few observations. First, Guy Lewis has known for some time that Judge Davis was making reasonable efforts to secure Aaron Podhurst and Bob Josephsberg for this assignment. In fact, when I told you of Judge Davis's selection during our meeting last Wednesday, November 21st, you and Professor Dershowitz seemed very comfortable, and certainly not surprised, with the selection. Podhurst and Josephsberg are no strangers to nearly the entire Epstein defense team including Guy Lewis, Lili Ann Sanchez, Roy Black, and, apparently, Professor Dershowitz who said he knew Mr. Josephsberg from law school. Second, Podhurst and Josephsberg have long-standing stellar reputations for their legal acumen and ethics. It's hard for me to imagine how much more vetting needs to be done.

The United States has a statutory obligation (Justice for All Act of 2004) to notify the victims of the anticipated upcoming events and their rights associated with the agreement entered into by the United States and Mr. Epstein in a timely fashion. Tomorrow will make one full week since you were *formally* notified of the selection. I must insist that the vetting process come to an end. Therefore, unless you provide me with a *good faith* objection to Judge Davis's selection by COB tomorrow, November 28, 2007, I will authorize the notification of the victims. Should you give me the go-ahead on Podhurst and Josephsberg selection by COB tomorrow, I will simultaneously send you a draft of the letter. I intend to notify the victims by letter after COB Thursday, November 29th. Thanks,

Jeff

TAB 35

KIRKLAND & ELLIS LLP
AND AFFILIATED PARTNERSHIPS

777 South Figueroa Street
Los Angeles, California 90017
[redacted]
www.kirkland.com

Kenneth W. Starr
To Call Writer Directly:
[redacted]

Facsimile:
(213) 680-8500

November 28, 2007

**VIA FACSIMILE**

Honorable Alice S. Fisher
Assistant Attorney General
Department of Justice
Criminal Division
950 Pennsylvania Avenue NW
Room 2107
Washington, DC 20530

Re: *Jeffrey Epstein*

Dear Ms. Fisher:

I represent Jeffrey Epstein, who, as you may be aware, was the target of a dual investigation by both state and federal authorities in Florida for acts relating to his interactions with numerous young women. As you may also be aware, Mr. Epstein has entered into a Deferred Prosecution Agreement (the "Agreement") with the United States Attorney's Office for the Southern District of Florida (the "USAO") to resolve its criminal investigation of him. I am writing to request a meeting with you to discuss certain aspects of this case that I find especially troublesome.

As part of the agreement Mr. Epstein was required to sign to avoid a federal indictment, Mr. Epstein was required to waive jurisdiction and liability under 18 U.S.C. §2255 for the settlement of monetary claims that might be made by a group of unidentified alleged victims who will be identified by the USAO at some point in the future. Neither I, nor any of the other defense lawyers involved in this matter, have ever heard of such a procedure. And as part of this Agreement, Mr. Epstein is precluded from contesting liability as to civil lawsuits seeking monetary compensation for damages brought by any of the identified individuals who elect to settle their civil claims for the statutory minimum of either $50,000 (the amount set by Congress as of the date of the occurrences) or $150,000 (the amount currently set by statute) or some other agreed upon damage amount. We believe that the utilization of 18 U.S.C. § 2255 as a pre-condition of criminal plea agreements or non-prosecution agreements is highly unusual and requires careful consideration and additional guidance by your Office. We also believe that the manner in which the USAO has interpreted the settlement process for these identified individuals under the Agreement requires guidance. These areas are more fully detailed below.*

*First.* Federal criminal investigators and prosecutors should not be in the business of promoting civil lawsuits as a condition precedent to entering non-prosecution or deferred prosecution agreements. This is especially true where the vehicle for the financial settlement under the Agreement requires payment in a lump sum without requiring proof of actual injury or loss — federal authorities should therefore be particularly sensitive to avoid causing a prejudiced and unfair result. 18 U.S.C. § 2255 is a civil statute implanted in the criminal code; in contrast to all other criminal restitution statutes, § 2255 fails to correlate payments to specific injuries or losses. Instead, the statute presumes that victims have sustained damages of at least a minimum lump sum without regard to whether the complainants suffered actual medical, psychological or other forms of individualized harm. We presume that it is for this reason that 18 U.S.C. § 2255 has never before been employed in this manner in connection with a non-prosecution or, as here, a deferred prosecution agreement. In short, the USAO is operating in uncharted territory.

*Second.* 18 U.S.C. § 2255 creates the potential for compromising witness testimony. Although generally the Government may promise or provide traditional consideration to potential witnesses, employing a civil statute that promises a lump sum payment to potential witnesses without proof of actual liability or damage provides an extraordinary incentive that is incompatible with the truth-seeking functions of the criminal justice system. Guidelines or other policy directives should be considered to control the extent to which witnesses are informed by investigators about the availability of such financial windfalls. Additionally, an inquiry is necessary in this specific case to assure that disclosures to potential witnesses did not undermine the reliability of the results of the federal criminal investigation of Mr. Epstein.

*Third.* The USAO has provided no information as to the specific claims made by each identified individual, nor were we provided the names or ages of those individuals or the time-frame of the alleged conduct. The USAO's reluctance to provide Mr. Epstein with *any* information with respect to the allegations against him leaves wide open the opportunity for misconduct by federal investigators. In addition, this information vacuum eliminates the ability for Mr. Epstein and/or his agents to verify that the allegations at issue are grounded in real evidence. Indeed, the requirement that a target of federal criminal prosecution agree to waive his right to contest liability as to *unnamed* civil complainants creates at minimum an appearance of injustice, both because of the obvious Due Process concerns of waiving rights without notice of even the identity of the complainant(s) and because of the involvement of the federal criminal justice system in civil settlements between private individuals.

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* In addition to the areas identified below, it was and remains our position that federal prosecution of this matter is entirely inappropriate based on the prior application and legislative histories of the relevant federal statutes.

*Fourth.* The USAO has improperly insisted that the chosen attorney representative should be able to litigate the claims of individuals, which violates the terms of the Agreement and deeply infringes upon the spirit and nature of the Agreement. Initially, for the sake of expediting a settlement in this matter, we suggested that Mr. Epstein establish a restitution fund specifically for the settlement of the identified individuals' civil claims and that an impartial, independent representative be appointed to administer that fund. Notably, such a restitution fund was created in a federal case, *U.S. v. Boehm*, Case No. 3:04CR00003 (D. Alaska 2004). The federal prosecutors here rejected this idea, and they insisted that an attorney representative, paid for by Mr. Epstein, be appointed. Yet, there was no suggestion at the time that the attorney representative's duties included litigating claims on behalf of the identified individuals. However, after the parties agreed to the appointment of an attorney representative, the prosecutors announced that the criteria for choosing an appropriate attorney representative now included that the individual be "a plaintiff's lawyer capable of handling multiple lawsuits against high profile attorneys." This interpretation of the scope of the attorney representative's role is far outside the common understanding that existed when we negotiated Mr. Epstein's settlement with the USAO. Furthermore, we firmly believe that ethics rules preclude the representative from litigating claims on behalf of the identified individuals.

In sum, we believe that the actions undertaken in this matter by the USAO with respect to the 18 U.S.C. § 2255 provisions of the Agreement are highly unusual. We respectfully request a meeting with you at your earliest convenience to discuss the important issues raised by the USAO's conduct in this deeply policy-laden matter.

Sincerely,

Kenneth W. Starr

Kenneth W. Starr

```
*********************
***   TX REPORT   ***
*********************

TRANSMISSION OK

TX/RX NO                1638
CONNECTION TEL                  912025149412
SUBADDRESS
CONNECTION ID
ST. TIME                11/28 09:17
USAGE T                 01'57
PGS.                      4
RESULT                  OK
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# KIRKLAND & ELLIS LLP

## *Fax Transmittal*

777 South Figueroa Street
Los Angeles, California 90017
Phone: (213) 680-8400
Fax: (213) 680-8500

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**Please notify us immediately if any pages are not received.**

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| ***To:*** | ***Company:*** | |
| Hon. Alice S. Fisher | Department of Justice | |
| ***From:*** | ***Date:*** | ***Pages w/cover:*** |
| Kenneth W. Starr | November 28, 2007 | 4 |

[redacted]

***Message:***

TAB 36

"Villafana, Ann Marie C. (USAFLS)" [redacted]

11/28/2007 04:46 PM

To "Jay Lefkowitz" [redacted]

cc "Sloman, Jeff (USAFLS)"
"Acosta, Alex (USAFLS)" [redacted]

bcc

Subject Epstein: Victim Notification Letter

History: This message has been replied to and forwarded.

Dear Jay:

Jeff asked that I forward the victim notification letter to you. It is attached.

Thank you.

<<Victim Notification Ltr.pdf>>

*A. Marie Villafaña*

Assistant U.S. Attorney

500 S. Australian Ave, Suite 400

West Palm Beach, FL 33401

[redacted]

Victim Notification Ltr.pdf

**U.S. Department of Justice**

*United States Attorney*
*Southern District of Florida*

---

*500 South Australian Ave., Suite 400*
*West Palm Beach, FL 33401*
*(561) 820-8711*
*Facsimile: (561) 820-8777*

November 29, 2007

DELIVERY BY HAND
Miss

Re: Crime Victims' Rights – Notification of Resolution of Epstein Investigation

Dear Miss _____:

Several months ago, I provided you with a letter notifying you of your rights as a victim pursuant to the Justice for All Act of 2004 and other federal legislation, including:

(1) The right to be reasonably protected from the accused.
(2) The right to reasonable, accurate, and timely notice of any public court proceeding involving the crime or of any release or escape of the accused.
(3) The right not to be excluded from any public court proceeding, unless the court determines that your testimony may be materially altered if you are present for other portions of a proceeding.
(4) The right to be reasonably heard at any public proceeding in the district court involving release, plea, or sentencing.
(5) The reasonable right to confer with the attorney for the United States in the case.
(6) The right to full and timely restitution as provided in law.
(7) The right to proceedings free from unreasonable delay.
(8) The right to be treated with fairness and with respect for the victim's dignity and privacy.

I am writing to inform you that the federal investigation of Jeffrey Epstein has been completed, and Mr. Epstein and the U.S. Attorney's Office have reached an agreement containing the following terms.

First, Mr. Epstein agrees that he will plead guilty to two state offenses, including the offense of soliciting minors to engage in prostitution, which will require him to register as a sexual predator for the remainder of his life.

Second, Mr. Epstein has agreed to make a binding recommendation of 18 months' imprisonment to the state court judge who sentences him. Mr. Epstein will serve that sentence of imprisonment at the Palm Beach County Jail.

Third, Mr. Epstein has agreed that he will not contest jurisdiction or liability if you elect to seek damages from him because the United States has identified you as a minor victim of certain federal offenses, including travel in interstate commerce to engage in prostitution with minors and the use of facilities of interstate commerce to induce minors to engage in prostitution. To assist you in making such a claim, the U.S. Attorney's Office has asked an independent Special Master to select attorneys to represent you. Those attorneys are Aaron Podhurst and Robert ("Bob") Josefsberg with the law firm of Podhurst Orseck, P.A. They can be reached at (305) 358-2800. I anticipate that someone from their law firm will be contacting you shortly. I must also advise you that you are not obligated to use these attorneys. In fact, you have the absolute right to select your own attorney, so you can decide not to speak with Mssrs. Podhurst/ Josefsberg at all, or you can speak with them and decide at any time to use a different attorney. If you do decide to seek damages from Mr. Epstein and you decide to use Messrs. Podhurst / Josefsberg as your attorneys, Mr. Epstein will be responsible for paying attorney's fees incurred during the time spent trying to negotiate a settlement. If you are unable to reach a settlement with Mr. Epstein, you and Mr. Josefsberg can discuss how best to proceed.

As I mentioned above, as part of the resolution of the federal investigation, Mr. Epstein has agreed to plead guilty to state charges. Mr. Epstein's change of plea and sentencing will occur on December 14, 2007, at _____ a.m., before Judge Sandra K. McSorley, in Courtroom 11F at the Palm Beach County Courthouse, 205 North Dixie Highway, West Palm Beach, Florida. Pursuant to Florida Statutes Sections 960.001(1)(k) and 921.143(1), you are entitled to be present and to make a statement under oath. If you choose, you can submit a written statement under oath, which will be filed by the State Attorney's Office on your behalf. If you elect to prepare a written statement, it should address the following:

> the facts of the case and the extent of any harm, including social, psychological, or physical harm, financial losses, loss of earnings directly or indirectly resulting from the crime for which the defendant is being sentenced, and any matter relevant to an appropriate disposition and sentence. Fl. Stat. 921.143(2).

You also are entitled to notification when Mr. Epstein is released from imprisonment at the end of his prison term and/or if he is allowed to participate in a work release program. To receive such notification, please provide the State Attorney's Office with the following information:

1. Your name
2. Your address
3. Your home, work, and/or cell phone numbers

4. Your e-mail address
5. A notation of whether you would like to participate in the "VINE system," which provides automated notification calls any time an inmate is moved. (To use this system, your calls must go to you directly, not through a switchboard.)

Thank you for all of your help during the course of the investigation. If you have any questions or concerns, please do not hesitate to contact me or Special Agent Nesbitt Kuyrkendall at (561) 822-5946.

Sincerely,

R. Alexander Acosta
United States Attorney

By:
A. Marie Villafaña
Assistant United States Attorney

cc: Special Agent Nesbitt Kuyrkendall, F.B.I.
Ms. Clearetha Wright, Victim-Witness Coordinator, U.S. Attorney's Office

# TAB 37

**"Sloman, Jeff (USAFLS)"**
[redacted]
02/27/2008 09:45 PM

To [redacted]
cc "Oosterbaan, Andrew" [redacted]
bcc
Subject Fw: Epstein

History: This message has been forwarded.

--------------------------
Sent from my BlackBerry Wireless Handheld

----- Original Message -----
From: Jeffrey Sloman [redacted]
To: Sloman, Jeff (USAFLS)
Sent: Wed Feb 27 21:37:02 2008
Subject: Epstein

Jay,

You have renewed your request for certain information which this Office does not generally make available in similar pre-indictment situations. After carefully considering your request, I have decided, in my capacity as the First Assistant U.S. Attorney, not to make an exception here.

Regarding the Landon Thomas matter, Mr. Thomas was given, pursuant to his request, non-case specific information concerning specific federal statutes.

Regarding the offer to extend the current deadline of March 3, 2008 contained in my February 25th email. That offer was based on counsel for Mr. Epstein meeting with CEOS the week of March 3rd. You indicate that you are unavailable. It is hard to imagine that some or all of the other attorneys representing Mr. Epstein cannot serve this function. After all, Mr. Epstein is also represented by Dean Kenneth Starr, Martin Weinberg, Roy Black, Gerald Lefcourt, Harvard Professor Alan Dershowitz, Lily Ann Sanchez, and Guy Lewis.

That being said, the Southern District of Florida will only renew the offer to extend the current deadline if you and the CEOS Section Chief mutually agree on a timetable by close of business on Friday, February 29, 2008 to meet and complete presentations no later than March 19, 2008. Given that CEOS is ready to proceed immediately, this seems like more than ample time. As I indicated in my previous email, if CEOS subsequently decides that a federal prosecution should not be undertaken against Mr. Epstein, this Office will close its investigation. However, should CEOS disagree with Mr. Epstein's position, Mr. Epstein shall have one week to abide by the terms and conditions of the September 24, 2007 Agreement as amended by letter from United States Attorney Acosta.

Jeffrey H. Sloman

First Asst. US Attorney

Southern District of Florida

# TAB 38

# UNITED STATES DEPARTMENT OF JUSTICE

## Criminal Division
## Child Exploitation and Obscenity Section

1400 New York Avenue, NW
Suite 600
Washington, DC 20530-0001
20005

CEOS: (202) 514-5780

FAX: (202) 514-1793

| | |
|---|---|
| TO: | R. Alexander Acosta, Esq.<br>Jay Lefkowitz, Esq. |
| OFFICE NUMBER: | |
| FAX NUMBER: | [redacted] |
| FROM: | Alexandra Gelber |
| DATE/TIME: | May 16, 2008 |
| OFFICE NUMBER: | (202) 514-5780 |

NUMBER OF PAGES, EXCLUDING THIS SHEET: 5

SPECIAL INSTRUCTIONS:

**U.S. Department of Justice**

Criminal Division

Andrew G. Oosterbaan, Chief

*Child Exploitation and Obscenity Section*

*1400 New York Avenue, NW*
*Suite 600*
*Washington, DC 20530*
*(202) 514-5780 FAX: (202) 514-1793*

May 15, 2008

Jay Lefkowitz, Esq.
Kirkland & Ellis LLP
Citigroup Center
153 E. 53rd St.
New York, NY 10022-4611

Re: *Investigation of Jeffery Epstein*

Dear Mr. Lefkowitz:

Pursuant to your request and the request of U.S. Attorney R. Alexander Acosta, we have independently evaluated certain issues raised in the investigation of Jeffrey Epstein to determine whether a decision to prosecute Mr. Epstein for federal criminal violations would contradict criminal enforcement policy interests. As part of our evaluation, we have reviewed letters written on behalf of Mr. Epstein on February 1, 2007, June 25, 2007, July 6, 2007, March 28, 2008, April 8, 2008, April 28, 2008, and May 14, 2008, with their attachments. We have also reviewed memos prepared by the U.S. Attorney's Office. As you will recall, we met with you and other representatives of Mr. Epstein to further discuss your views on the propriety of a federal prosecution. We have discussed the factual and legal issues you raise with the Criminal Division's Appellate Section, and we consulted with the Office of Enforcement Operations concerning the petite policy.

We are examining the narrow question as to whether there is a legitimate basis for the U.S. Attorney's Office to proceed with a federal prosecution of Mr. Epstein. Ultimately, the prosecutorial decision making authority within a U.S. Attorney's Office lies with the U.S. Attorney. Therefore, to borrow a phrase from the case law, the question we sought to answer was whether U.S. Attorney Acosta would abuse his discretion if he authorized prosecution in this case.

As you know, our review of this case is limited, both factually and legally. We have not looked at the entire universe of facts in this case. It is not the role of the Criminal Division to re-conduct a complete factual inquiry from scratch. Furthermore, we did not analyze any issues concerning prosecution under federal statutes that do not pertain to child exploitation, such as the money laundering statutes.

As was made clear at the outset, we did not review the facts, circumstances, or terms included in the plea offer, nor any allegations that individuals involved in the investigation engaged in misconduct. Despite that agreement, we note that your letters of April 8, April 28, and May 14 focus in large part on accusations of investigative or prosecutorial misconduct. Not only do allegations of prosecutorial misconduct fall outside the boundary of our agreed review, they also fall outside the authority of the Criminal Division in the first instance. Simply, the Criminal Division does not investigate or resolve allegations of professional misconduct by federal prosecutors. For these reasons, we do not respond to the portion of those letters that discuss alleged misconduct.

Based on our review of all of these materials, and after careful consideration of the issues, we conclude that U.S. Attorney Acosta could properly use his discretion to authorize prosecution in this case. We will briefly address each of the issues that you have raised.

*Knowledge of age.* Federal child exploitation statutes differ as to whether there must be proof that the defendant was aware that the children were under the age of 18. However, even for those statutes where knowledge of age is an element of the offense, it is possible to satisfy that element with proof that the defendant was deliberately ignorant of facts which would suggest that the person was a minor. For that reason, the fact that some of the individuals allegedly lied to Mr. Epstein about their age is not dispositive of the issue. While there may be an open factual issue as to Mr. Epstein's knowledge, we cannot say that it would be impossible to prove knowledge of age for any such charges which require it. Therefore, Mr. Acosta could rightfully conclude that this factual issue is best resolved by a jury.

*Travel for the purpose.* In the materials you prepared, you suggest that Mr. Epstein should not be charged with violating 18 U.S.C. § 2423(b) because his dominant purpose in going to Florida was not to engage in illegal sexual activity, but rather to return to one of his residences. While we fully understand your argument, we also find that the U.S. Attorney's office has a good faith basis fully to develop the facts on this issue and brief the law to permit a court to decide whether the law properly reaches such conduct. Mr. Acosta would not be abusing his discretion if he decided to pursue such a course of action.

*Intent to engage in the conduct at the time of travel.* Based on our review of the facts of this case, we respectfully disagree that there is no evidence concerning Mr. Epstein's intent when he traveled, and when that intent was formed. Should Mr. Acosta elect to let the case proceed so that a jury can resolve this factual issue, he would be within his discretion to do so.

*Use of a facility or means of interstate or foreign commerce.* Much of the materials you have prepared and much of the meeting we had focused on 18 U.S.C. § 2422(b), specifically your contention that Mr. Epstein did not use the phone to coerce anyone to engage in illegal sexual activity. We understand the issue you raise concerning the statutory interpretation. As before, however, we cannot agree that there is no evidence that would support a charge under Section 2422(b), nor can we agree that there is no argument in support of the application of that statute to this case. Finally, our assessment is that the application of that statute to these facts would not be so novel as to implicate the so-called "clear statement rule," the *Ex Post Facto* clause, or the Due Process clause. As with the other legal issues, Mr. Acosta may elect to proceed with the case.

*Absence of coercion.* With respect to 18 U.S.C. § 1591, the alleged absence of the use of force, fraud, or coercion is of no moment. The statute does not require the use of force, fraud, and coercion against minors. Because of their age, a degree of coercion is presumed. In your materials, you note that the statute requires that the minors must be "caused" to engage in a commercial sex act, further arguing that the word "cause" suggests that a certain amount of undue influence was used. We reject that interpretation, as it would read back into the offense an element--coercion--that Congress has expressly excluded. We have successfully prosecuted defendants for the commercial sexual exploitation of minors, even when the minors testified that not only did they voluntarily engage in the commercial sex acts, it was their idea to do so. As such, Mr. Acosta could properly decide to pursue charges under Section 1591 even if there is no evidence of coercion.

More broadly, a defendant's criminal liability does not hinge on his victim identifying as having suffered at his hands. Therefore, a prosecution could proceed, should Mr. Acosta decide to do so, even though some of the young women allegedly have said that they do not view themselves as victims.

*Witness credibility.* As all prosecutors know, there are no perfect witnesses. Particularly in cases involving exploited children, as one member of your defense team, Ms. Thacker, surely knows from her work at CEOS, it is not uncommon for victim-witnesses to give conflicting statements. The prosecutors are in the best position to assess the witness's credibility. Often, the prosecutor may decide that the best approach is to present the witness, let defense counsel explore the credibility problems on cross-examination, and let the jury resolve the issue. Mr. Acosta would be within his authority to select that approach, especially when here there are multiple, mutually-corroborating witnesses.

*Contradictions and omissions in the search warrant application.* We have carefully reviewed the factual issues you raise concerning the search warrant application. For a search warrant to be suppressed, however, the factual errors must be material, and the officers must not have proceeded in good faith. Despite the numerous factual errors you describe, the U.S. Attorney's Office could still plausibly argue that the mistakes--whether inadvertent or intentional--were not material to the determination that probable cause existed for a search, and that the search was in good faith in any event. As such, Mr. Acosta could properly elect to defend the search warrant in court rather than forego prosecution.

*Petite Policy:* After reviewing the petite policy and consulting with the Office of Enforcement Operations ("OEO"), we conclude that the petite policy does not prohibit federal prosecution in this case. According to the U.S. Attorney's Manual, the petite policy "applies whenever there has been a prior state or federal prosecution resulting in an acquittal, a conviction, including one resulting from a plea agreement, or a dismissal or other termination of the case on the merits after jeopardy has attached." USAM 9-2.031(C). Our understanding is that the state case is still pending. As such, the procedural posture of the state case does not implicate the petite policy.

We recognize that the petite policy could be triggered if the state case concluded after a federal indictment was issued but prior to the commencement of any federal trial. *Id.* However, the policy "does not apply ... where the [state] prosecution involved only a minor part of the contemplated federal charges." USAM 9-2.031(B). Based on our understanding of the possible federal charges and existing state charges, we do not think the petite policy would be an issue should federal proceedings take place.

*Federalism and Prosecutorial Discretion.* All of the above issues essentially ask whether a federal prosecution *can* proceed. We understand, however, that you also ask whether a federal prosecution *should* proceed, even in the event that all of the elements of a federal offense could be proven. On this issue, you raised two arguments: that the conduct at issue here is traditionally a state concern because the activity is entirely local, and that the typical prosecution under federal child exploitation statutes have different facts than the ones implicated here. You have essentially asked us to look into whether a prosecution would so violate federal prosecutorial policy that a United States Attorney's Office should not pursue a prosecution. We do not think that is the case here for the following reasons.

Simply, the commercial sexual exploitation of children is a federal concern, even when the conduct is local, and regardless of whether the defendant provided the child (the "pimp") or paid for the child (the "john"). In your materials, you refer to a letter sent by the Department of Justice to Congress in which the Department expresses concern over the expansion of federal laws to reach almost all instances of prostitution. In that portion of the letter, the Department was expressly referring to a proposed federal law that reach adult prostitution where no force, fraud, or coercion was used. Indeed, the point being made in that letter is that the Department's efforts are properly focused on the commercial sexual exploitation of children and the exploitation of adults through the use of force, fraud, or coercion. As such, there is no inconsistency between the position taken in that letter and the federal prosecution of wholly local instances of the commercial sexual exploitation of children.

If Congress wanted to limit the reach of federal statutes only to those who profit from the commercial sexual exploitation of children, or only to those who actually traffic children across state lines, it could have done so. It did not. Finally, that a prosecution of Mr. Epstein might not look precisely like the cases that came before it is not dispositive. We can say with confidence that this case is consistent in principle with other federal prosecutions nationwide. As such, Mr. Acosta can soundly exercise his authority to decide to pursue a prosecution even though it might involve a novel application of a federal statute.

*Conclusion.* After carefully considering all the factual and legal issues raised, as well as the arguments concerning the general propriety of a federal case against Mr. Epstein on these facts, we conclude that federal prosecution in this case would not be improper or inappropriate. While you raise many compelling arguments, we do not see anything that says to us categorically that a federal case should not be brought. Mr. Acosta would not be abusing his prosecutorial discretion should he authorize federal prosecution of Mr. Epstein.

Sincerely yours,

Andrew G. Oosterbaan
Chief

cc: AAG Alice S. Fisher
DAAG Sigal P. Mandelker
U.S. Attorney R. Alexander Acosta

# TAB 39

Jay Lefkowitz/New York/Kirkland-Ellis
Sent by: Kristin Andersen/New York/Kirkland-Ellis

12/12/2007 04:19 PM

To Ami Sheth/New York/Kirkland-Ellis@K&E
cc Eugene Kornel/New York/Kirkland-Ellis@K&E
bcc
Subject Fw: Epstein

----- Forwarded by Kristin Andersen/New York/Kirkland-Ellis on 12/12/2007 04:19 PM -----

Jay Lefkowitz/New York/Kirkland-Ellis

11/28/2007 04:29 PM

To "Sloman, Jeff (USAFLS)" [redacted]
cc "Acosta, Alex (USAFLS)"
Subject Re: Epstein

Dear Jeff:

I received your email yesterday and was a little surprised at the tone of your letter, given the fact that we spoke last week and had what I thought was a productive meeting. I was especially surprised given that your letter arrived on only the second day back to work after the Thanksgiving Holiday, and yet your demands regarding timing suggest that I have been sitting on my hands for days.

You should know that the first time I learned about Judge Davis's selection of Podhurst and Josephsberg, and indeed the first time I ever heard their names, was in our meeting with you on Wednesday of last week. Nevertheless, I have now been able to confer with my client, and we have determined that the selection of Podhurst and Josephsberg are acceptable to us, reserving, of course, our previously stated objections to the manner in which you have interpreted the section 2255 portions of the Agreement.

We do, however, strongly and emphatically object to your sending a letter to the alleged victims. Without a fair opportunity to review and the ability to make objections to this letter, it is completely unacceptable that you would send it without our consideration. Additionally, given that the US Attorney's office has made clear it cannot vouch for the claims of the victims, it would be incendiary and inappropriate for your Office to send such a letter. Indeed, because it is a certainty that any such letter would immediately be leaked to the press, your actions will only have the effect of injuring Mr. Epstein and promoting spurious civil litigation directed at him. We believe it is entirely unprecedented, and in any event, inappropriate for the Government to be the instigator of such lawsuits.

Finally, we disagree with your view that you are required to notify the alleged victims pursuant to the Justice for All Act of 2004. First, 18 USC section 2255, the relevant statute under the Non-Prosecution Agreement for the settlement of civil remedies, does not have any connection to the Justice for All Act. Section 2255 was enacted as part of a different statute. Second, the Justice for All Act refers to restitution, and section 2255 *is* not a restitution statute. It is a civil remedy. As you know, we had offered to provide a restitution fund for the alleged it is a civil remedy. As you know, we had offered to provide a restitution fund for the alleged victims in this matter; however that option was rejected by your Office. Had that option been chosen, we would not object to your notifying the alleged victims at this point. At this juncture, however, we do not accept your contention that there is a requirement that the government notify the alleged victims of a potential civil remedy in this case.

Accordingly, for all the reasons we have stated above, we respectfully -- and firmly -- object to your sending any letter whatsoever to the alleged victims in this matter. Furthermore, if a letter is to be sent to these individuals, we believe we should have a right to review and make objections to that submission prior to it being sent to any alleged victims. We also request that if your Office believes that it must send a letter to go to the alleged victims, who still have not been identified to us, it should happen only after Mr. Epstein has entered his plea. This letter should then come from the attorney representative, and not from the Government, to avoid any bias.

As you know, Judge Starr has requested a meeting with Assistant Attorney General Fisher to address what we believe is the unprecedented nature of the section 2255 component of the Agreement. We are hopeful that this meeting will take place as early as next week. Accordingly, we respectfully request that we postpone our discussion of sending a letter to the alleged victims until after that meeting. We strongly believe that rushing to send any letter out this week is not the wisest manner in which to proceed. Given that Mr. Epstein will not even enter his plea for another few weeks, time is clearly not of the essence regarding any notification to the identified individuals.

Thanks very much,

Jay

"Sloman, Jeff (USAFLS)" [redacted]

**"Sloman, Jeff (USAFLS)"**
[redacted]
11/27/2007 01:55 PM

To "Jay Lefkowitz" [redacted]
cc "Acosta, Alex (USAFLS)" [redacted]
Subject Epstein

Jay,

Please accept my apologies for not getting back to you sooner but I was a little under the weather yesterday. I hope that you enjoyed your Thanksgiving.

Regarding the issue of due diligence concerning Judge Davis' selection, I'd like to make a few observations. First, Guy Lewis has known for some time that Judge Davis was making reasonable efforts to secure Aaron Podhurst and Bob Josephsberg for this assignment. In fact, when I told you of Judge Davis's selection during our meeting last Wednesday, November 21st, you and Professor Dershowitz seemed very comfortable, and certainly not surprised, with the selection. Podhurst and Josephsberg are no strangers to nearly the entire Epstein defense team including Guy Lewis, Lili Ann Sanchez, Roy Black, and, apparently, Professor Dershowitz who said he knew Mr. Josephsberg from law school. Second, Podhurst and Josephsberg have long-standing stellar reputations for their legal acumen and ethics. It's hard for me to imagine how much more vetting needs to be done.

The United States has a statutory obligation (Justice for All Act of 2004) to notify the victims of the anticipated upcoming events and their rights associated with the agreement entered into by the United States and Mr. Epstein in a timely fashion. Tomorrow will make one full week since you were *formally* notified of the selection. I must insist that the vetting process come to an end. Therefore, unless you provide me with a *good faith* objection to Judge Davis's selection by COB tomorrow, November 28, 2007, I will authorize the notification of the victims. Should you give me the go-ahead on Podhurst and Josephsberg selection by COB tomorrow, I will simultaneously send you a draft of the letter. I intend to notify the victims by letter after COB Thursday, November 29th. Thanks,

Jeff

# TAB 40

**TAX MATTERS- IRS Circular 230 Disclosure: To ensure compliance with requirements imposed by the IRS, we inform you that any tax advice contained in this communication (including attachments) was not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein. If you would like such advice, please contact us.***

***Attention: The information contained in this E-mail message is attorney privileged and confidential information intended only for the use of the individual(s) named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this communication is strictly prohibited. If you have received this communication in error, please contact the sender by reply E-mail and destroy all copies of the original message. Thank you.

----- Message from "A. on Fri, -----

**To:** "Lilly

**Subject:** Menchel

Dear Lilly:

Thank you for your letter of August 2nd regarding your proposal on how to resolve the Epstein matter.

As we explained at our meeting on July 31, 2007, the Office believes that the federal interest will not be vindicated in the absence of a two-year term of state imprisonment for Mr. Epstein. That offer was not meant as a starting point for negotiations, it is the minimum term of imprisonment that will obviate the need for federal prosecution. The Office has never agreed that a state prison sentence is not appropriate for Mr. Epstein. Rather we simply stated that if Mr. Epstein preferred to serve his sentence in a federal penetentiary, we would be willing to explore a federal conviction that may allow that in lieu of any state resolution. Further, as I made clear in our follow up telephone conversation after the meeting, a plea to two federal misdemeanors was never extended or meant as an offer.

We also would reiterate that the agreement to Section 2255 liability applies to all of the minor girls identified during the federal investigation, not just the 12 that form the basis of an initial planned charging instrument.

As you know, the ability to engage in flexible plea negotiations is dramatically changed upon the return of an indictment. Once an indictment is returned, the Office does not intend to file a Superseding Information containing a lesser charge or to dismiss the case in favor of state prosecution.

Please let us know your client's decision by no later than August 17. I have conferred with U.S. Attorney Acosta who has asked me to communicate that the two-year term of incarceration is a non-negotiable minimum to vindicate a federal interest, and, at this time, he is not inclined to meet with counsel for Mr. Epstein.

Sincerely,

R. Alexander Acosta
United States Attorney

By:
Matthew Menchel
Chief, Criminal Division

cc: Roy Black
Gerald Lefcourt
R. Alexander Acosta
Jeffrey Sloman
Andrew Lourie
A. Marie Villafaña

Margot Moss, Esq.
Fowler White Burnett, PA
Espirito Santo Plaza
1395 Brickell Avenue, 14th Floor
Miami, FL 33131
[redacted]

# TAB 41

"Sloman, Jeff (USAFLS)"
[redacted]
10/31/2007 04:33 PM

To "Jay Lefkowitz" [redacted]
cc
bcc
Subject Epstein

Jay,

Your understanding from Jack Goldberger conforms to my understanding that Mr. Epstein's plea and sentence will take place on the same day. I understand that the plea and sentence will occur on or before the January 4th date.

Jeff

**From**: [redacted]
**Sent**: 2/17/2011 6:19:01 PM
**To**: jeevacation@gmail.com
**Subject**: Trump & Patricia Kluge

**Importance**: High

# Trump in talks to buy socialite Kluge's Charlottesville vineyard and estate

By Annie Gowen and Steve Yanda
Washington Post Staff Writers
Wednesday, February 16, 2011; 10:47 PM

Embattled Virginia socialite and winemaker Patricia Kluge may have found a white knight to preserve her Charlottesville empire - real estate mogul Donald Trump.

Trump's business adviser said Wednesday that Trump was negotiating to buy not only Kluge's grand estate, Albemarle House, which a bank foreclosed on in January, but all of Kluge's former real estate holdings outside Charlottesville near Thomas Jefferson's Monticello estate.

Those include 200 acres of land adjacent to the estate that once had a nine-hole golf course designed by Arnold Palmer, a 900-acre vineyard and a failed real estate development where Kluge had planned to market luxury "farmettes" with their own grapevines.

Leslie Goldman, a Washington-based adviser to Trump, said it would be "premature to speculate" what Trump had planned for the area, but said the land has "significant historical value and potential for development."

"Obviously, the more acreage, the more pieces you acquire, the more possibilities there are," he said.

Trump has already made forays into Virginia real estate. In 2009, he purchased a 600-acre golf club along the Potomac River in Loudoun County and renamed it the Trump National Golf Club. He raised the ire of local environmentalists last summer after the club removed hundreds of trees that it claimed threatened the shoreline.

Trump's representative appeared at a foreclosure auction of Kluge's large estate on the courthouse steps in downtown Charlottesville Wednesday morning, where a crowd of about 50 lawyers and curiosity seekers had gathered.

In the past year, Kluge's travails have become well-known around Charlottesville, where over the last two decades the British-born socialite has cut a glamorous - and sometimes controversial - figure.

In 1999 she founded what became a well-respected vineyard on land around her grand house, which she had received as part of a high-profile divorce settlement in 1990 from John Kluge, the late media mogul who was once the country's richest man.

Kluge Estate Winery and Vineyard won accolades for sparkling wines - served at the White House and at Chelsea Clinton's wedding last summer - and a blended red called New World Red. Kluge and her third husband, retired IBM executive William Moses, worked to promote not only their own wine brand but the growing Virginia wine industry as a whole.

But in the past two years, following some aggressive expansion of the winery and the failure of the housing development, Kluge fell upon hard times. Credit problems forced her to sell off her jewelry and extensive collection of art and antiques last year. She lost the vineyard at a foreclosure auction in December.

Kluge had initially tried to sell Albemarle House - which the Sotheby's listing calls "one of the most important residences in the United States since the Golden Age" - for $100 million, but when no buyer came forward the price was ultimately slashed to $24 million. The eight-bedroom home has its own movie theater, wine grotto, swimming pool and helipad.

At Wednesday's auction, Bank of America, Kluge's creditor, took full ownership of the property with a bid of $15.26 million. But Trump holds what the lawyers called a "right of first refusal" to buy the property at a later date.

Kluge and Moses declined to comment directly on yesterday's events, but both have said they have been working diligently with their lawyers over the last several months to help save their business.

The Trump organization had been working closely with Kluge and Moses on the deal, but how the partnership will play out - if they would have a future role at what would be Trump's vineyard - remained unclear Wednesday.

"They've been working together with the objective of trying to preserve the vineyard for the benefit of the Virginia wine industry," Goldman said. "If it all comes together, it may provide them an opportunity to continue to stay involved in their life's work."

*Yanda reported from Charlottesville. Staff researcher Magda Jean-Louis also contributed to this report.*

**From**: Stephanie [redacted]
**Sent**: 3/4/2011 11:15:40 PM
**To**: Peggy Siegal [redacted]jeevacation@gmail.com
**Subject**: RE: Oscar diary
**Attachments**: Oscar story.doc

**Importance**: High

Jeffrey,

Peggy's story is attached to the e-mail. I have included the story in the body of the e-mail as well.

Thanks,

Stephanie

Omar Quadhafi is hunkering down in Tripoli giving press interviews denying that rebels are taking over Eastern Libya. Oil prices are shooting over one hundred dollars a barrel. The US government is on the verge of a shut down. These are not the top secret opening lines to Aaron Sorkin's new script, but the global headlines of a world spinning out of control. I head to Los Angeles like an overdressed lemming to attend the 83rd Academy Awards and attempt to make sense of artists thrust into combat.

For the second year nearly 6,000 Academy members have nominated 10 films and the battle is down to two. The beloved timeless classic, "The King's Speech" marches into the arena as the front runner, but passionate supporters of the brilliant edgier (and critics darling) "The Social Network" have not conceded. The ballots are counted, the party invites are out and still the feelings are raw. Filmmakers are exhausted from campaigning.

At Bryan Lourd's famous star studded party Sony Classics' Co-President Michael Barker announces to me he has taken a random sampling of voters in the room. He says, "There will be a 'Social Network' upset at the Kodak Theater." Shear panic radiates from my every pore as he says, "I am joking." It's like color war at summer camp.

Woody Allen and George Lucas tell me they are no longer members of the Academy because pitting artists against each other to determine the quality of their work is insane. They are right.

My event and publicity company is considered "Switzerland" by the studios, as we help every filmmaker to present and position his work. This year I am somewhat emotionally sucked in.

In 2005 I meet the unknown 32-year-old English director Tom Hooper on his first film for HBO,"Elizabeth I". The Emmy award winning movie stars Helen Mirren, who takes credit for discovering him directing English television. Helen later wins her Oscar for portraying Queen Elizabeth in “The Queen”. Queen Elizabeth is the daughter of King George VI portrayed by Oscar winner Colin Firth in "The King's Speech".

I also become Hooper's champion encouraging many to see his early work including his herculean 10 hour HBO mini-series "John Adams" produced by Tom Hanks.

Six years later at the Telluride Film Festival Tom Hooper is bathing in the glory of a hysterical standing ovation with Colin Firth and Geoffrey Rush at the very first screening of "The King's Speech." Surprisingly, this drama's subtle humor gets big laughs leading up to its emotional ending.

Within two weeks, at The Toronto Film Festival, Harvey Weinstein is now standing with his filmmakers witnessing the same reaction. The film wins The Audience Prize. Their strategy is to say nothing. Do nothing. They have a possible Oscar winner. Four out of five past Best Pictures have premiered in Toronto.

Cut to New York City at the end of September. It's the opening night at The Film Society of Lincoln Center. One of America's most important and prolific producers Scott Rudin, along with Jesse Eisenberg, Andrew Garfield and Aaron Sorkin are in a brightly lit box waving down to their equally hysterical audience who have just seen "The Social Network".

The film opens the next day to rave reviews and endless publicity. David Fincher is off making "The Girl with the Dragon Tattoo". Aaron Sorkin becomes the face of the film and an immediate shoo-in for an Oscar.

The Hamptons International Film Festival in October suddenly becomes a launching pad for "127 Hours", where cool Yale/NYU student James Franco appears and receives a heroic standing ovation. More Oscar buzz.

"Black Swan" also unspools there in a tiny theater as Madonna, Alec Baldwin and even Harvey Weinstein slip in the back. Darren Aronofsky, sporting the ever present cool wool scarf around his neck is hailed a genius. Natalie Portman is instantly the hot nominee for Best Actress.

Both films are sensational and movie goers go nuts, but it is "The King's Speech" that edges out the competition for The Audience Prize.

Mid-November David O. Russell and Mark Wahlberg, working together for the third time, sneak "The Fighter" in Manhattan. As their audience erupts in cheers, I tell producer/actor Wahlberg, "Clint Eastwood is going to kill himself for not directing this." Wahlberg says, "You are wrong. He turned it down because he's done it. He has seen it and he loves it." I instantly lavish my affection and praise on David O. Russell, who becomes my new Clint Eastwood.  Christian Bale and Melissa Leo are hailed the supporting actors to beat.

"True Grit" directed by the Coen Brothers and also produced by Scott Rudin doesn't premiere till mid-December at the Ziegfeld as the last serious Oscar contender for Best Picture. It gallops off to box office gold.

This is the year many of the 78 million Baby Boomers go back to the theaters. Five small budget independent films become surprise hits as each exceeds $100 million.

"The Social Network" now cements its battle cry with one word; "relevance".  Mark Zuckerberg lands on the cover of Time Magazine as The Person of the Year. A smart and extensive ad campaign positions the film in the lead. Critics and pundits proclaim the race is over. "The Social Network" is the clear winner. Everyone goes on holiday.

This is probably the only time in Harvey Weinstein's life that he is caught off guard. He quickly mobilizes an inner team of 15 and conducts strategy meetings 7 days a week, including Christmas. They become like a Chinese Restaurant...always open.   A generational war is in full swing. Harvey screens his film for the older voters. Everything is done by the books. Budgets are limited. He sends screenwriter David Seidler and Tom Hoooper to every corner of the country doing q+a's till they are blue in the face from "finding their voice." SAG voters begin seeing the film 2 and 3 times.

In January the Golden Globes voted on by about 88 foreign journalists gives Best Drama to "The Social Network", Best Director to David Fincher and Best Screenplay to Aaron Sorkin. Their film is still perceived as the Oscar winner.

Team Weinstein underestimates their hard work and is in shock when "The King's Speech" wins the PGA in L.A. Harvey doesn’t even attend and is working in Sundance. They are equally surprised when Tom Hooper wins the DGA and the actors win the SAG Ensemble.  The BAFTAs reinforced the lead. They are now the front runner. It takes the media a few weeks to catch on.

The Daily Mail announces Her Royal Highness, Queen Elizabeth has enjoyed a private screening of “The King’s Speech” and is "moved" by the film.  With no proof the Queen has actually seen the film, the Weinstein Company sends out a global press release thanking her Majesty for the endorsement. They also acknowledge Prime Minister David Cameron’s private Christmas screening.

On Oscar night, it isn't until Hilary Swank surprisingly yells out Hooper's name for Best Director that Harvey's gang finally realizes they are getting the Oscar for Best Picture. The King has spoken.

Friday, February 24th
Mid-day, I arrive at The Beverly Hills Hotel, where I have stayed for thirty years. As the housekeepers unpack my bags upstairs I peek into the Polo Lounge and find icon Warren Beatty in a booth. He motions me over to meet an Egyptian fashion editor from Cairo. I say, "Warren, you are a little late to visit Cairo." I tell him I'm rooting for Annette and love her film “The Kids Are All Right”. Warren tells me “The Social Network” will win.

This year I am two days late arriving to Oscar weekend. I am now shown to a very very very small room, the size of a broom closet. Uncharacteristically, I have a slight melt down. I am moved. The housekeepers run down the hall with my clothes flying. I calm down. The hotel is sold out. I get someone else's room. Another poor schmuck checking in downstairs will get the broom closet.

It is cold, grey and rainy. Taffata, organdy and embroidered silk evening clothes hang in my closet. I stay in my sweaters and fur coat and head to Arianna Huffington's Mediterranean house in Beverly Hills where Wendi Murdoch and Arianna are hosting a party for Tom Freston's wife, the beautiful blond Kathy. The book is called "Veganist: Lose Weight, Get Healthy, Change the World. A perfect book for Monks.

Arianna has just sold the Huffington Post for to AOL to $315 million dollars and rumored to have personally landed around $20 million. She is euphoric as she greets Nicole Kidman and Keith Urban at the door. Other drenched power players ushered in under umbrellas include Disney's Bob Iger and wife Willow Bay, Fox’s Jim Gianopulos, Candice Bergen and journalist daughter Chloe Malle, Google's Eric Schmidt, Oliver Stone avoiding questions about Charlie Sheen and escorting his daughter Tara, Moby, Jamie Niven, Brian Grazer, Vivi Nevo, Tracey Ullman, CBS’s Les Moonves and Julie Chen, Rob Reiner, Paramount’s Brad Grey and fiancé Cassandra Marc and Jeff Bezos.  Hors d'oeuvres include pigs in blankets, a food group not mentioned in Kathy's book.

The party action migrates to UTA Jim Burkus's home in the neighborhood for “True Grit's” Ethan and Joel Coen. I pass Ron Howard on the way in and he says, "Keep me on your list." Is he kidding? Sunrise and Mark Ruffalo, Tim Robbins, Focus Feature's James Shamus, Nancy Meyers and John Goldwyn mingle. Adorable Hallie Steinfeld is there with her parents. I am trying to fix her up with Justin Bieber. She giggles, "Peg, I am only 14."

Hunky Josh Brolin tells me he is coming to New York in March to shoot two new films. He is working on producing and starring in "The Hunchback of Notre Dame" with Tim Burton as a future project.

I am now inches away, face to face with Harrison Ford and stupidly tell him I love him in "Morning Glory". He is looking at me in utter disbelief and I will not shut up. A gorgeous guy is also inches away in a hat, glasses, jacket, layered sweater and scarves. I whisper to Harrison, "That looks just like Johnny Depp." Harrison rolls his eyes and reluctantly introduces me to his friend Johnny Depp. I babel a bit about his great work and run for cover to a corner next to my buddy, Jerry Bruckheimer. Jerry introduces me to the wives, Vanessa Paradis and Calista Flockhart. I bore them with girly chit-chat and realize it's time to get out of there.

I head over to the CAA/Bryan Lourd "Friday Night Party". Torrential rains and horrific winds cause a traffic jam that makes it impossible to get near the house. Cell phones do not work. The world's most famous faces cower under black umbrellas and make a run for it.

Bryan Lourd and Bruce Bozzi receive friends at the door all night. Inside Uma tells me she finally moved into a doorman building in New York after being terrorized by stalkers for years. Talented, Ben Walker talks about "Abraham Lincoln: Vampire Hunter" he is about to shoot as his fiancé Mamie Gummer looks sexy shivering in a white satin gown. Producer Jon Kilik mentions he oversees a new cut of Julian Schnabel's "Miral" to be released in March. Bennett Miller, standing with Kristin Gore says Sony loves his new film "Moneyball" and Brad Pitt is terrific. (When is Brad Pitt not terrific?) Sandy Gallin tells me he has an actual job decorating Jeffrey Katzenberg's home and he has never been happier. I congratulate Barry Levinson's son, Sam, a director, for winning the writing award at Sundance for his first film, "Another Happy Day" which is inspired by his family.

Also seen floating around are, Taylor Swift and Jake Gyllenhaal, but not together, Sean Penn, Tom Curise and Katie Holmes, Anderson Cooper, Hilary Swank, Kelly Ripa, Carrie Fisher, Bruce Weber, Sean Combs, Paul Haggis, Marisa Tomei, Jay Roach, Kate Beckinsale, Demi Moore and Ashton Kutcher, Kate Hudson, Gerard Butler, Leo DiCaprio and Bar Refaeli, Renee Zellweger with Bradley Cooper, Biutiful director Alejandro Gonzalez-Inarritu, Kathryn Bigelow and Mark Boal, Ellen Barkin who is headed to Broadway in "The Normal Heart" this spring and CAA's Kevin Huvane, Richard Lovett and Hylda Queally.

Busy Bruce Cohen who is producing Sunday's awards broadcast tries to get his car to leave. Limo lock is at a standstill. Nothing is moving outside. Two hundred swells become party prisoners and resign to just having an absolute ball till 5:00am. Once again, this is the most star studded party in town.

Saturday, February 26th, 2011

The sun comes up and dries up all the land. IAC chairmen and owner of The Newsweek/Daily Beast Barry Diller and his designer wife Diane Von Furstenberg host their annual lunch for Graydon Carter in their Coldwater Canyon home. Barry introduces me to his star guest, Governor Jerry Brown, just elected to his third (nonconsecutive) term as California Governor. Diane's children, Alex and Tatiana, along with their children comprise three generations of guests, which makes this party so special.

Like last year, enormous clear plastic tents are erected on the hill near the house. Long wooden picnic tables covered with yellow flowers sit on oriental rugs, covering the soggy ground. Terrines of hot soup, platters of sausages, fried chicken and salads are beautifully arranged on an endless buffet. Everyone wears winter clothes; comfy sweaters and sensible shoes. I arrive in a fur coat.

Barry and Diane's loyal friends have been coming to this party for over fifteen years. Everybody knows everybody and it doesn't matter if you have a hit film or TV show this season. Oprah Winfrey kisses David Geffen, casually chats with former Disney CEO Michael Eisner and current Sony chief Sir Howard Stringer. Brett Ratner arrives with his house guest Jean Pigozzi who is allowed to photograph everyone. Graydon greets people with wife Anna and Fran Lebowitz by his side.

Ingrid Sischy and Sandy Brant, Rupert Murdoch, Ron Meyer, Bryan Lourd Francesco Clemente with his twin boys and Tom Ford chat each other up. People watching include the pregnant Victoria and David Beckham with Lynn Wyatt, Liv Tyler, Vincent Gallo, Eva Longoria, Larry Gagosian and Shala Monroque, Ben Silverman, Debbie and Allen Grubman, Tobias Meyer and Mark Fletcher and Stephen Gaghan and Mini Mortimer wearing her oversized cat glasses.

Bruce Cohen has invited me to the Oscar broadcast rehearsal. This is a special honor. There are metal barricades leading up to the credentials trailer. High-tech security includes photos and computer background checks. The only thing they don't do is pat me down and ask for fingerprints. Once inside the Kodak Theater's massive auditorium, I find a seat next to Bruce's proud parents. I watch Josh Brolin and Javier Bardem come out in white dinner jackets and flub their lines as they pretend to present Best Adapted Screenplay and Best Original Screenplay. Josh later told me at The Night Before Party that their acting methods are completely opposite. Josh says he is a quick study and is very creative and comfortable ad-libbing. Javier, whose mother tongue is Spanish, needs to have every syllable printed out, which he studies with a dialect coach. Little wiggle room for jokes. Life size photos on large cardboard plaques are taped to each nominee's chair. I try to memorize their location, so when I return Sunday I can quickly kiss them all.

Back at the Beverly Hills hotel, I slip into my gorgeous black tulle Dennis Basso cocktail dress with a plunging neck line and put on my mother's jewels. Jim Coleman takes me the Night Before Party in the hotel. This is Jeffrey Katzenberg's, 9th Annual A-lister event benefiting The Motion Picture & Television Fund where they raise $6.5 million dollars in one night. I walk right into Valentino who gives me the once over and approves my outfit. I tell him and Giancarlo Giammetti that Woody Allen's new film, "Midnight in Paris" is opening the Cannes Film Festival and they must bring the yacht. Woody is also filming all summer in Rome and I am counting on them to entertain him.

Elton John and David Furnish join our conversation and of course we ask for intimate details about the new baby. Elton says this is the first time they have been away from him for more than a night and they are delirious with parenthood. I segway over to Amy Adams who mentions she also hates leaving her baby in the hotel room. I tell her she's acted like a lady with all the attention showered on Melissa Leo and that someday soon she will win an Oscar because she consistently hands in amazing performances and everybody loves her. Next stop is Kate Capshaw in a black bowler hat chatting with Steven Spielberg's god-daughter Gwyneth Paltrow. Kate gushes as she talks about her two grandchildren from daughter Jessica. I have known Steven since "I Wanna Hold Your Hand". In 1982, as a young publicist on "E.T." I moved to California to work for him as one of his thirteen assistants. I now tell him I'm going to Broadway opening of "War Horse" with Kathy Kennedy and Frank Marshall and cannot wait to see his movie version. He is wildly excited about the film. I beg him to work on it.

I meet sweet Jennifer Aniston, her new hair cut and her perfect little body. Her date tells me her secret is a half hour on the treadmill every day. Somehow I think that's an understatement. I tell Jesse Eisenberg I was on his plane home from the Baftas last week. He was hiding under his hoodie and I knew not to bother him. He said innocently, "You should have said 'Hello'. I always cover my head because I think my curls make me look like a girl".

The charity gives us a coupon booklet redeemable at various booths for cheap clothing, new iPads, make-up, chocolates, shampoo and a $50 dollar Arch gift card for free McDonalds hamburgers. A bargain is a bargain, rich people run around like lunatics, collecting gifts for their housekeepers. Among the shoppers are Steven and Heather Mnuchin, Viacom's Deborah and Philippe Dauman, Tamara Mellon, Christine Taylor and Ben Stiller, Cate Blanchette, Susan and Robert Downey,Jr., and Debra and Hugh Jackman.

Next stop is The Weinstein Company's Pre-Oscar party at the Soho House, sponsored by MontBlanc, celebrating their new charity partnership and $1 million dollar donation to the Princess Grace Foundation-USA. Long gone are the funky Miramax Saturday night parties where nominees spoofed their own films in homemade costumes and ad-libbed hilarious skits. Grown men would dress as Anna Paquin and play the piano in hopes of winning a Max Award.

There is social anxiety at the Soho House garage entrance. Guests patiently wait as super stars whisk by. A four hundred pound gorilla refuses to let me on the elevator until I spot Benny Medina. Once on, I see the radiant Jennifer Lopez in the corner and remind her we met on Len Blavatnik's yacht in Cannes. She graciously pretends to know me. Her manager, Benny Medina is kicking me.

I slip into Colin Firth's booth by the front bar to have a tete-a-tete with him and his wife Livia Giuggioli about tomorrow night. Jokingly, I suggest when he wins to say, "I'm speechless". Colin patiently assures me many people, far more clever than I, have already mentioned this. He then says that others are waging bets on whether he might subconsciously stutter. I grill him about his wardrobe, assuming he will be wearing a new Tom Ford tuxedo. He tells me both he and Ford will be in older models as Ford only designs classics. I tell him I made director Charles Ferguson, front runner for the financial documentary "Inside Job" spend $6,000 dollars last week for a new Tom Ford tuxedo.

In the back room Jennifer Lopez is now seated with Weinstein's wife Georgina Chapman. Nominee Helena Bonham Carter, her husband Tim Burton and her mother Elena circulate. Celebs have now drifted over from The Night Before Party. The star power includes Adrien Brody, Mary-Kate and Ashley Olsen, Cameron Diaz, Camilla Belle, Chace Crawford, Claire Danes and Hugh Dancy, Darren Aronofsky, Emma Stone, Jaime Foxx, director John Wells, Kerry Washington, Piers Morgan, Rachel Zoe, Russell Simmons, Sean Parker, Sir Ben Kingsly, Zack Braff , Michelle Williams and Leonardo Dicaprio with Bar Rafaeli. "Speech" filmmakers are functioning on high anxiety.

Sunday, February 27th, 2011

Producer Donna Gigliotti is my date to the awards. We are both so nervous we arrive at the Kodak Theater at 3:00pm and nobody is there. We are driven around for an hour. When we arrive at the world's most famous red carpet, I guide Donna through the extreme right security check-in to make sure we mingle with the nominees and get on camera. I teach her the red carpet hustle which is five steps forward, three steps back and one inch behind a couture-clad nominee. We greet Bryan Lourd as Sandra Bullock is talking to ABC-TV and a billion people see me wearing a black Marchesa gown. Five steps forward, three steps back, we next meet Gwyneth Paltrow. As I hook up the back of her dress another billion people see us correcting a fashion malfunction. Once again, five steps forward and three steps back. We are now posing for the still cameras between Nicole Kidman and Keith Urban. Our handbags begin buzzing. Countless friends are e-mailing us that they just saw us on television.

James Franco and Anne Hathaway are hip and energetic hosts. The film montages are always the best and the set looks great. This is the year of no surprises. Sorkin, Seidler, Christian Bale, Melissa Leo, Natalie Portman and Colin Firth are totally prepared to receive the gold. Tom Hooper's win leads into Best Picture. Harvey is now sitting in Spielberg's seats as Spielberg announces the win. Six months of grueling work have finally paid off. King George VI and Harvey Weinstein now share the journey of a single man who triumphs over adversity.

The Governor's ball, held above the Kodak Theater, recreates the Mocambo-Ciro's niteries of the 1930's and 40's, using a palette of teal and white. Three bands alternate musical styles as hungry guests wolf down Wolfgang Puck's delicious food. The winners triumphantly sachet around the room holding their heavy eight pound gold statues.

An hour later there is a migration to the famous Vanity Fair party hosted by Graydon Carter at the Sunset Tower Hotel owned by Jeff Klein. One celebrity after another poses in front of the green hedge standing in the middle of the circular Vanity Fair logo to record their devotion and support to Graydon and the magazine.

There's a hierarchy of arrival times. The inner circle of Graydon's 150 best friends attend a seated dinner and viewing of the show at 5pm. They include Barry Diller and Diane Von Furstenberg, Francis Ford Coppola, Jon Hamm and Jennifer Westfeldt, Betsey Bloomingdale, Tory Burch and Lyor Cohen, Tom Ford, Sandy Gallin, Mitch Glazer and Kelly Lynch, Carolina and Reinaldo Herrera, L'Wren Scott and Sir Mick Jagger, Naomi Watts and Live Schreiber, Wendi Stark, Judd Apatow, Jackie and Joan Collins, George Hammilton, Donna Karan and Steve Martin.

The best and the brightest talent in town arrive at 9pm. They are Justin Bieber and his date Selena Gomez, Andrew Garfield, Jude Law, Vera Farmiga, Armie Hammer, Jennifer Lawrence, Kevin Spacey, Charlize Theron, Anne Hathaway, Hailee Steinfield,Taylor Hackford and Helen Mirren, Scarlett Johansson, Michelle Williams, Isla Fischer and Sasha Baron Cohen, Jane Fonda after her play, "33 Variations", Melania and Donald Trump whom I introduce to David O. Russell as The Trumpster gushes about "The Fighter". Donald offers me a ride home on his plane. He is leaving in ten minutes. Too bad James Franco didn't know because he is presently sitting on a commercial flight back to school, skipping his own after party. Social standings of the rest of the guests are determined by half hour increments. Every other person previously mentioned in the story is here. VF's Beth Kseniak and Matt Ullian tell me the list is cut down to 800 this year.

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A winner's work is never done. Colin Firth, Tom Hooper and David Seidler show up at 4:30am at The Four Seasons Hotel for a live broadcast on The Today Show with Meredith Vieira. Functioning on an adrenalin rush, they are back at the Kodak Theater with Geoffrey Rush to appear on Oprah's live broadcast. Leave it to Oprah to get the king's last words.

-----Original Message-----
From: Peggy Siegal
Sent: Friday, March 04, 2011 6:12 PM
To: Stephanie
Subject: Oscar diary

Send to jeffrey

Omar Quadhafi is hunkering down in Tripoli giving press interviews denying that rebels are taking over Eastern Libya. Oil prices are shooting over one hundred dollars a barrel. The US government is on the verge of a shut down. These are not the top secret opening lines to Aaron Sorkin’s new script, but the global headlines of a world spinning out of control. I head to Los Angeles like an overdressed lemming to attend the 83rd Academy Awards and attempt to make sense of artists thrust into combat.

For the second year nearly 6,000 Academy members have nominated 10 films and the battle is down to two. The beloved timeless classic, "The King's Speech" marches into the arena as the front runner, but passionate supporters of the brilliant edgier (and critics darling) "The Social Network" have not conceded. The ballots are counted, the party invites are out and still the feelings are raw. Filmmakers are exhausted from campaigning.

At Bryan Lourd's famous star studded party Sony Classics' Co-President Michael Barker announces to me he has taken a random sampling of voters in the room. He says, "There will be a 'Social Network' upset at the Kodak Theater." Shear panic radiates from my every pore as he says, "I am joking." It's like color war at summer camp.

Woody Allen and George Lucas tell me they are no longer members of the Academy because pitting artists against each other to determine the quality of their work is insane. They are right.

My event and publicity company is considered "Switzerland" by the studios, as we help every filmmaker to present and position his work. This year I am somewhat emotionally sucked in.

In 2005 I meet the unknown 32-year-old English director Tom Hooper on his first film for HBO,"Elizabeth I". The Emmy award winning movie stars Helen Mirren, who takes credit for discovering him directing English television. Helen later wins her Oscar for portraying Queen Elizabeth in “The Queen”. Queen Elizabeth is the daughter of King George VI portrayed by Oscar winner Colin Firth in "The King's Speech".

I also become Hooper's champion encouraging many to see his early work including his herculean 10 hour HBO mini-series "John Adams" produced by Tom Hanks.

Six years later at the Telluride Film Festival Tom Hooper is bathing in the glory of a hysterical standing ovation with Colin Firth and Geoffrey Rush at the very first screening of "The King's Speech." Surprisingly, this drama's subtle humor gets big laughs leading up to its emotional ending.

Within two weeks, at The Toronto Film Festival, Harvey Weinstein is now standing with his filmmakers witnessing the same reaction. The film wins The Audience Prize. Their strategy is to say nothing. Do nothing. They have a possible Oscar winner. Four out of five past Best Pictures have premiered in Toronto.

Cut to New York City at the end of September.  It's the opening night at The Film Society of Lincoln Center.  One of America's most important and prolific producers Scott Rudin, along with Jesse Eisenberg, Andrew Garfield and Aaron Sorkin are in a brightly lit box waving down to their equally hysterical audience who have just seen "The Social Network".

The film opens the next day to rave reviews and endless publicity. David Fincher is off making "The Girl with the Dragon Tattoo". Aaron Sorkin becomes the face of the film and an immediate **shoo-in** for an Oscar.

The Hamptons International Film Festival in October suddenly becomes a launching pad for "127 Hours", where cool Yale/NYU student James Franco appears and receives a heroic standing ovation. More Oscar buzz.

"Black Swan" also unspools there in a tiny theater as Madonna, Alec Baldwin and even Harvey Weinstein slip in the back. Darren Aronofsky, sporting the ever present cool wool scarf around his neck is hailed a genius. Natalie Portman is instantly the hot nominee for Best Actress.

Both films are sensational and movie goers go nuts, but it is "The King's Speech" that edges out the competition for The Audience Prize.

Mid-November David O. Russell and Mark Wahlberg, working together for the third time, sneak "The Fighter" in Manhattan. As their audience erupts in cheers, I tell producer/actor Wahlberg, "Clint Eastwood is going to kill himself for not directing this." Wahlberg says, "You are wrong. He turned it down because he's done it. He has seen it and he loves it." I instantly lavish my affection and praise on David O. Russell, who becomes my new Clint Eastwood.  Christian Bale and Melissa Leo are hailed the supporting actors to beat.

"True Grit" directed by the Coen Brothers and also produced by Scott Rudin doesn't premiere till mid-December at the Ziegfeld as the last serious Oscar contender for Best Picture. It gallops off to box office gold.

This is the year many of the 78 million Baby Boomers go back to the theaters. Five small budget independent films become surprise hits as each exceeds $100 million.

"The Social Network" now cements its battle cry with one word; "relevance". Mark Zuckerberg lands on the cover of Time Magazine as The Person of the Year. A smart and extensive ad campaign positions the film in the lead. Critics and pundits proclaim the race is over. "The Social Network" is the clear winner. Everyone goes on holiday.

This is probably the only time in Harvey Weinstein's life that he is caught off guard. He quickly mobilizes an inner team of 15 and conducts strategy meetings 7 days a week, including Christmas. They become like a Chinese Restaurant...always open. A generational war is in full swing. Harvey screens his film for the older voters. Everything is done by the books. Budgets are limited. He sends screenwriter David Seidler and Tom Hoooper to every corner of the country doing q+a's till they are blue in the face from "finding their voice." SAG voters begin seeing the film 2 and 3 times.

**In January** the Golden Globes voted on by about 88 foreign journalists gives Best Drama to "The Social Network", Best Director to David Fincher and Best Screenplay to Aaron Sorkin. Their film is still perceived as the Oscar winner.

Team Weinstein underestimates their hard work and is in shock when "The King's Speech" wins the PGA in L.A. **Harvey doesn’t even attend and is working in Sundance.** They are equally surprised when Tom Hooper wins the DGA and the actors win the SAG Ensemble. The BAFTAs reinforced the lead. They are now the front runner. It takes the media a few weeks to catch on.

**The Daily Mail announces Her Royal Highness, Queen Elizabeth has enjoyed a private screening of “The King’s Speech” and is "moved" by the film. With no proof the Queen has actually seen the film, the Weinstein Company sends out a global press release thanking her Majesty for the endorsement. They also acknowledge Prime Minister David Cameron’s private Christmas screening.**

On Oscar night, it isn't until Hilary Swank surprisingly yells out Hooper's name for Best Director that Harvey's gang finally realizes they are getting the Oscar for Best Picture. **The King has spoken.**

Friday, February 24th
Mid-day, I arrive at The Beverly Hills Hotel, where I have stayed for thirty years. As the housekeepers unpack my bags upstairs I peek into the Polo Lounge and find icon Warren Beatty in a booth. He motions me over to meet an Egyptian fashion editor from Cairo. I say, "Warren, you are a little late to visit Cairo." **I tell him I'm rooting for Annette and love her film “The Kids Are All Right”. Warren tells me “The Social Network” will win.**

This year I am two days late arriving **to** Oscar weekend. I am now shown to a very very very small room, the size of a broom closet. Uncharacteristically, I have a slight melt down. I am moved. The housekeepers run down the hall with my clothes flying. I calm down. The hotel is sold out. I get someone else's room. Another poor schmuck checking in downstairs will get the broom closet.

It is cold, grey and rainy. Taffata, organdy and embroidered silk evening clothes hang in my closet. **I stay in my sweaters and fur coat and head to Arianna Huffington's Mediterranean house in Beverly Hills where Wendi Murdoch and Arianna are hosting a party for Tom Freston's wife, the beautiful blond Kathy. The book is called "Veganist: Lose Weight, Get Healthy, Change the World. A perfect book for Monks.**

Arianna has just sold the Huffington Post for to AOL to $315 million dollars and rumored to have personally landed around $20 million. She is euphoric as she greets Nicole Kidman and Keith Urban at the door. Other drenched power players ushered in under umbrellas include Disney's Bob Iger and wife Willow Bay, Fox’s Jim Gianopulos, Candice Bergen and journalist daughter Chloe Malle, Google's Eric Schmidt, Oliver Stone avoiding questions about Charlie Sheen and escorting his daughter Tara, Moby, **Jamie Niven,** Brian Grazer, Vivi Nevo, Tracey Ullman, CBS’s Les Moonves and Julie Chen, Rob Reiner, Paramount’s Brad Grey and fiancé Cassandra Marc and Jeff Bezos. Hors d'oeuvres include pigs in blankets, a food group not mentioned in Kathy's book.

The party action migrates to UTA Jim Burkus's home in the neighborhood for **“True Grit’s”** Ethan and Joel Coen. I pass Ron Howard on the way in and he says, "Keep me on your list." Is he kidding? Sunrise and Mark Ruffalo, Tim Robbins, Focus Feature’s James Shamus, Nancy Meyers and John Goldwyn mingle. **Adorable** Hallie Steinfeld is there with her parents. I am trying to fix her up with Justin Bieber. She giggles, "Peg, I am only 14."

Hunky Josh Brolin tells me he is coming to New York in March to shoot two new films. He is working on producing and starring in "The Hunchback of Notre Dame" with Tim Burton as a future project.

I am now inches away, face to face with Harrison Ford and stupidly tell him I love him in "Morning Glory". He is looking at me in utter disbelief and I will not shut up. A gorgeous guy is also inches away in a hat, glasses, jacket, layered sweater and scarves. I whisper to Harrison, "That looks just like Johnny Depp." Harrison rolls his eyes and reluctantly introduces me to his friend Johnny Depp. I babel a bit about his great work and run for cover to a corner next to my buddy, Jerry Bruckheimer. Jerry introduces me to the wives, Vanessa Paradis and Calista Flockhart. **I bore them with girly chit-chat and realize it's time to get out of there.**

I head over to the CAA/Bryan Lourd "Friday Night Party". **Torrential rains and horrific winds cause a traffic jam that makes it impossible to get near the house.** Cell phones do not work. The world's most famous faces cower under black umbrellas and make a run for it.

**Bryan Lourd and Bruce Bozzi receive friends at the door all night.** Inside Uma tells me she finally moved into a doorman building in New York after being terrorized by stalkers for years. Talented, Ben Walker talks about "Abraham Lincoln: Vampire Hunter" he is about to shoot as his fiancé Mamie Gummer looks sexy shivering in a white satin gown. Producer Jon Kilik mentions he oversees a new cut of Julian Schnabel's "Miral" to be released in March. Bennett Miller, **standing with Kristin Gore** says Sony loves his new film "Moneyball" and Brad Pitt is terrific. (When is Brad Pitt not terrific?) Sandy Gallin tells me he has an actual job decorating Jeffrey Katzenberg's home and he has never been happier. I congratulate Barry Levinson's son, Sam, a director, for winning the writing award at Sundance for his first film, "Another Happy Day" which is inspired by his family.

Also seen floating around are, Taylor Swift and Jake Gyllenhaal, but not together, Sean Penn, Tom Curise and Katie Holmes, Anderson Cooper, Hilary Swank, Kelly Ripa, Carrie Fisher, Bruce Weber, Sean Combs, Paul Haggis, Marisa Tomei, Jay Roach, Kate Beckinsale, Demi Moore and Ashton Kutcher, Kate Hudson, Gerard Butler, Leo DiCaprio and Bar Refaeli, Renee Zellweger with Bradley Cooper, Biutiful director Alejandro Gonzalez-Inarritu, Kathryn Bigelow and Mark Boal, Ellen Barkin who is headed to Broadway in "The Normal Heart" this spring and CAA’s Kevin Huvane, Richard Lovett and Hylda Queally.

Busy Bruce Cohen who is producing Sunday's awards broadcast tries to get his car to leave. Limo lock is at a standstill. Nothing is moving outside. Two hundred swells become party prisoners and resign to just having an absolute ball till 5:00am. Once again, this is the most star studded party in town.

Saturday, February 26th, 2011

The sun comes up and dries up all the land. IAC chairmen and owner of The Newsweek/Daily Beast Barry Diller and his designer wife Diane Von Furstenberg host their annual lunch for Graydon Carter in their Coldwater Canyon home. Barry introduces me to his star guest, Governor Jerry Brown, just elected to his third (nonconsecutive) term as California Governor. Diane’s children, Alex and Tatiana, along with their children comprise three generations of guests, which makes this party so special.

Like last year, enormous clear plastic tents are erected on the hill near the house. Long wooden picnic tables covered with yellow flowers sit on oriental rugs, covering the soggy ground. Terrines of hot soup, platters of sausages, fried chicken and salads are beautifully arranged on an endless buffet. Everyone wears winter clothes; comfy sweaters and sensible shoes. I arrive in a fur coat.

Barry and Diane’s loyal friends have been coming to this party for over fifteen years. Everybody knows everybody and it doesn’t matter if you have a hit film or TV show this season. Oprah Winfrey kisses David Geffen, casually chats with former Disney CEO Michael Eisner and current Sony chief Sir Howard Stringer. Brett Ratner arrives with his house guest Jean Pigozzi who is allowed to photograph everyone. Graydon greets people with wife Anna and Fran Lebowitz by his side.

Ingrid Sischy and Sandy Brant, Rupert Murdoch, Ron Meyer, Bryan Lourd Francesco Clemente with his twin boys and Tom Ford chat each other up. People watching include the pregnant Victoria and David Beckham with Lynn Wyatt, Liv Tyler, Vincent Gallo, Eva Longoria, Larry Gagosian and Shala Monroque, Ben Silverman, Debbie and Allen Grubman, Tobias Meyer and Mark Fletcher and Stephen Gaghan and Mini Mortimer wearing her oversized cat glasses.

Bruce Cohen has invited me to the Oscar broadcast rehearsal. This is a special honor. There are metal barricades leading up to the credentials trailer. High-tech security includes photos and computer background checks. The only thing they don’t do is pat me down and ask for fingerprints. Once inside the Kodak Theater’s massive auditorium, I find a seat next to Bruce’s proud parents. I watch Josh Brolin and Javier Bardem come out in white dinner jackets and flub their lines as they pretend to present Best Adapted Screenplay and Best Original Screenplay.

Josh later told me at The Night Before Party that their acting methods are completely opposite. Josh says he is a quick study and is very creative and comfortable ad-libbing. Javier, whose mother tongue is Spanish, needs to have every syllable printed out, which he studies with a dialect coach. Little wiggle room for jokes. Life size photos on large cardboard plaques are taped to each nominee's chair. I try to memorize their location, so when I return Sunday I can quickly kiss them all.

Back at the Beverly Hills hotel, I slip into my gorgeous black tulle Dennis Basso cocktail dress with a plunging neck line and put on my mother's jewels. Jim Coleman takes me the Night Before Party in the hotel. This is Jeffrey Katzenberg's, 9th Annual A-lister event benefiting The Motion Picture & Television Fund where they raise $6.5 million dollars in one night. I walk right into Valentino who gives me the once over and approves my outfit. I tell him and Giancarlo Giammetti that Woody Allen's new film, "Midnight in Paris" is opening the Cannes Film Festival and they must bring the yacht. Woody is also filming all summer in Rome and I am counting on them to entertain him.

Elton John and David Furnish join our conversation and of course we ask for intimate details about the new baby. Elton says this is the first time they have been away from him for more than a night and they are delirious with parenthood. I segway over to Amy Adams who mentions she also hates leaving her baby in the hotel room. I tell her she's acted like a lady with all the attention showered on Melissa Leo and that someday soon she will win an Oscar because she consistently hands in amazing performances and everybody loves her. Next stop is Kate Capshaw in a black bowler hat chatting with Steven Spielberg's god-daughter Gwyneth Paltrow. Kate gushes as she talks about her two grandchildren from daughter Jessica. I have known Steven since "I Wanna Hold Your Hand". In 1982, as a young publicist on "E.T." I moved to California to work for him as one of his thirteen assistants. I now tell him I'm going to Broadway opening of "War Horse" with Kathy Kennedy and Frank Marshall and cannot wait to see his movie version. He is wildly excited about the film. I beg him to work on it.

I meet sweet Jennifer Aniston, her new hair cut and her perfect little body. Her date tells me her secret is a half hour on the treadmill every day. Somehow I think that's an understatement. I tell Jesse Eisenberg I was on his plane home from the Baftas last week. He was hiding under his hoodie and I knew not to bother him. He said innocently, "You should have said 'Hello'. I always cover my head because I think my curls make me look like a girl".

The charity gives us a coupon booklet redeemable at various booths for cheap clothing, new iPads, make-up, chocolates, shampoo and a $50 dollar

Arch gift card for free McDonalds hamburgers. A bargain is a bargain, rich people run around like lunatics, collecting gifts for their housekeepers. Among the shoppers are Steven and Heather Mnuchin, Viacom’s Deborah and Philippe Dauman, Tamara Mellon, Christine Taylor and Ben Stiller, Cate Blanchette, Susan and Robert Downey,Jr., and Debra and Hugh Jackman.

Next stop is The Weinstein Company’s Pre-Oscar party at the Soho House, sponsored by MontBlanc, celebrating their new charity partnership and $1 million dollar donation to the Princess Grace Foundation-USA. Long gone are the funky Miramax Saturday night parties where nominees spoofed their own films in homemade costumes and ad-libbed hilarious skits. Grown men would dress as Anna Paquin and play the piano in hopes of winning a Max Award.

There is social anxiety at the Soho House garage entrance. Guests patiently wait as super stars whisk by. A four hundred pound gorilla refuses to let me on the elevator until I spot Benny Medina. Once on, I see the radiant Jennifer Lopez in the corner and remind her we met on Len Blavatnik’s yacht in Cannes. She graciously pretends to know me. Her manager, Benny Medina is kicking me.

I slip into Colin Firth’s booth by the front bar to have a tete-a-tete with him and his wife Livia Giuggioli about tomorrow night. Jokingly, I suggest when he wins to say, “I’m speechless”. Colin patiently assures me many people, far more clever than I, have already mentioned this. He then says that others are waging bets on whether he might subconsciously stutter. I grill him about his wardrobe, assuming he will be wearing a new Tom Ford tuxedo. He tells me both he and Ford will be in older models as Ford only designs classics. I tell him I made director Charles Ferguson, front runner for the financial documentary “Inside Job” spend $6,000 dollars last week for a new Tom Ford tuxedo.

In the back room Jennifer Lopez is now seated with Weinstein’s wife Georgina Chapman. Nominee Helena Bonham Carter, her husband Tim Burton and her mother Elena circulate. Celebs have now drifted over from The Night Before Party. The star power includes Adrien Brody, Mary-Kate and Ashley Olsen, Cameron Diaz, Camilla Belle, Chace Crawford, Claire Danes and Hugh Dancy, Darren Aronofsky, Emma Stone, Jaime Foxx, director John Wells, Kerry Washington, Piers Morgan, Rachel Zoe, Russell Simmons, Sean Parker, Sir Ben Kingsly, Zack Braff , Michelle Williams and Leonardo Dicaprio with Bar Rafaeli. “Speech” filmmakers are functioning on high anxiety.

Sunday, February 27th, 2011

Producer Donna Gigliotti is my date to the awards. We are both so nervous we arrive at the Kodak Theater at 3:00pm and nobody is there. We are driven around for an hour. When we arrive at the world's most famous red carpet, I guide Donna through the extreme right security check-in to make sure we mingle with the nominees and get on camera. I teach her the red carpet hustle which is five steps forward, three steps back and one inch behind a couture-clad nominee. We greet Bryan Lourd as Sandra Bullock is talking to ABC-TV and a billion people see me wearing a black Marchesa gown. Five steps forward, three steps back, we next meet Gwyneth Paltrow. As I hook up the back of her dress another billion people see us correcting a fashion malfunction. Once again, five steps forward and three steps back. We are now posing for the still cameras between Nicole Kidman and Keith Urban. Our handbags begin buzzing. Countless friends are e-mailing us that they just saw us on television.

James Franco and Anne Hathaway are hip and energetic hosts. The film montages are always the best and the set looks great. This is the year of no surprises. Sorkin, Seidler, Christian Bale, Melissa Leo, Natalie Portman and Colin Firth are totally prepared to receive the gold. Tom Hooper's win leads into Best Picture. Harvey is now sitting in Spielberg's seats as Spielberg announces the win. Six months of grueling work have finally paid off. King George VI and Harvey Weinstein now share the journey of a single man who triumphs over adversity.

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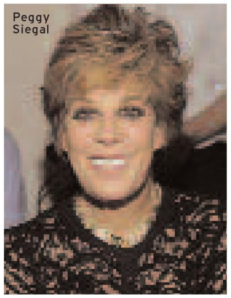
# The Glory of Gold

Über publicist Peggy Siegal has been attending the Academy Awards for three decades—not to mention the oodles of parties and sensational events leading up to the ceremony—and chronicling her escapades with stars and star-makers for *AVENUE* has become a tradition. This year, she sets the stage for the big night with the behind-the-scenes scoop on the fierce competition that ends when Oscar is presented. Here, she reports on the Hollywood glamour, excitement and social shenanigans, including celebrating with Colin Firth, Jesse Eisenberg, Elton John, Oprah Winfrey and many more.


Peggy Siegal

*photographs by* Patrick McMullan

Qaddafi is hunkering down in Tripoli, giving press interviews, denying that rebels are taking over Eastern Libya. Oil prices are shooting up over one hundred dollars a barrel. The U.S. government is on the verge of a shutdown. These are not the top-secret opening lines of **Aaron Sorkin**'s new script, but the global headlines of a world spinning out of control as I head to Los Angeles like an overdressed lemming to attend the 83rd Academy Awards and attempt to make sense of artists thrust into combat.

For the second year, nearly 6,000 Academy members have nominated 10 films and the battle seems to be pared down to 2. The beloved instant classic, *The King's Speech*, marches into the arena as the frontrunner, but passionate supporters of the edgier (critics' darling) *The Social Network* have not conceded. The ballots are counted, the party invites are out and still the feelings are raw. Nominees are exhausted from campaigning.

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In 2005, I met the unknown 32-year-old English director **Tom Hooper** on his first film for HBO, *Elizabeth I* starring **Helen Mirren**. Helen later wins an Oscar for portraying Queen Elizabeth in *The Queen*. Queen Elizabeth is the daughter of King George VI, portrayed by Oscar-winner **Colin Firth** in *The King's Speech* directed by Hooper. No degrees of separation.

At the Telluride Film Festival, Tom Hooper bathed in the glory of a hysterical standing ovation alongside Colin Firth and **Geoffrey Rush** at the very first public screening of that film. Two weeks later at The Toronto Film Festival, **Harvey Weinstein** stood with his filmmakers witnessing the same reaction. The film won The Audience Prize. Their strategy was to say nothing, do nothing. They have a possible Oscar winner—four out of five past Best Pictures have premiered in Toronto.

Cut to New York City at the end of September. It's opening night at The Film Society of Lincoln Center. One of America's most important and prolific producers, **Scott Rudin**, along with **Jesse Eisenberg**, **Andrew Garfield** and **Aaron Sorkin**, are in a brightly lit box waving down to their equally hysterical audience who have just seen *The Social Network*. The film opens the next day to rave reviews and endless publicity. **David Fincher** is off making *The Girl with the Dragon Tattoo.* **Aaron Sorkin** becomes the face of the film and an immediate shoo-in for the adapted screenplay Oscar.

The Hamptons International Film Festival in October suddenly becomes a launching pad for *127 Hours*, where star-cum-Yale/NYU student **James Franco** appears. More Oscar buzz. Producer/director **Danny Boyle** (Oscar winner for *Slumdog Millionaire*) stays in London all fall directing the play *Frankenstein. Black Swan* also unspools there in a tiny theater as **Madonna**, **Alec Baldwin** and **Harvey Weinstein** slip in the back. **Darren Aronofsky** is hailed a genius. **Natalie Portman** is instantly the hot nominee for Best Actress. Both films are sensations, but it's *The King's Speech* that wins The Audience Prize.

Mid-November: **David O. Russell** and **Mark Wahlberg** sneak *The Fighter* in Manhattan. As their audience erupts in cheers, I tell producer/actor Wahlberg, "**Clint Eastwood** is going to kill himself for not directing this." He says, "You're wrong. He turned it down because he's done it. He's seen it and he loves it." David O. Russell becomes my new Clint Eastwood. **Christian Bale** and **Melissa Leo** are hailed the supporting actors to beat.

*True Grit*, directed by the **Coen Brothers** and also produced by **Scott Rudin**, finally throws its cowboy hat in the ring in mid-December at the Ziegfeld as the last serious Oscar contender for Best Picture. It gallops off to box office gold.

*The Social Network* now cements its battle cry with one word: relevance. **Mark Zuckerberg** lands on the cover of *Time* Magazine as "Person of the Year." A smart and extensive ad campaign positions the film in the lead. Critics and pundits proclaim the race is over. Everyone goes on holiday.

This is one of the few times in Harvey Weinstein's life that he's caught off guard. He quickly mobilizes an inner team of 15 and conducts strategy meetings 7 days a week, including Christmas. They're like a Chinese restaurant: always open. He sends screenwriter **David Seidler** and Tom Hooper to every corner of the country doing Q&As until they are both blue in the face from "finding their voice." SAG voters begin seeing the film two and three times.

In January at the Golden Globes, about 88 foreign journalists give awards to *The Social Network* for Best Drama, Director and Screenplay. The film is still perceived as the Oscar winner and nobody can stop the steamroller. Only Academy voters disregard these awards.

*The King's Speech* wins the PGA in L.A. Everyone is totally surprised when Tom Hooper goes on to win the DGA. After a tremendous amount of hard work by team Weinstein, the actors win for the SAG Ensemble. The BAFTAs reinforced their lead; the film is now the frontrunner. It takes the media a few weeks to catch on.

Graydon and Anna Scott Carter

Sandr Bulloc

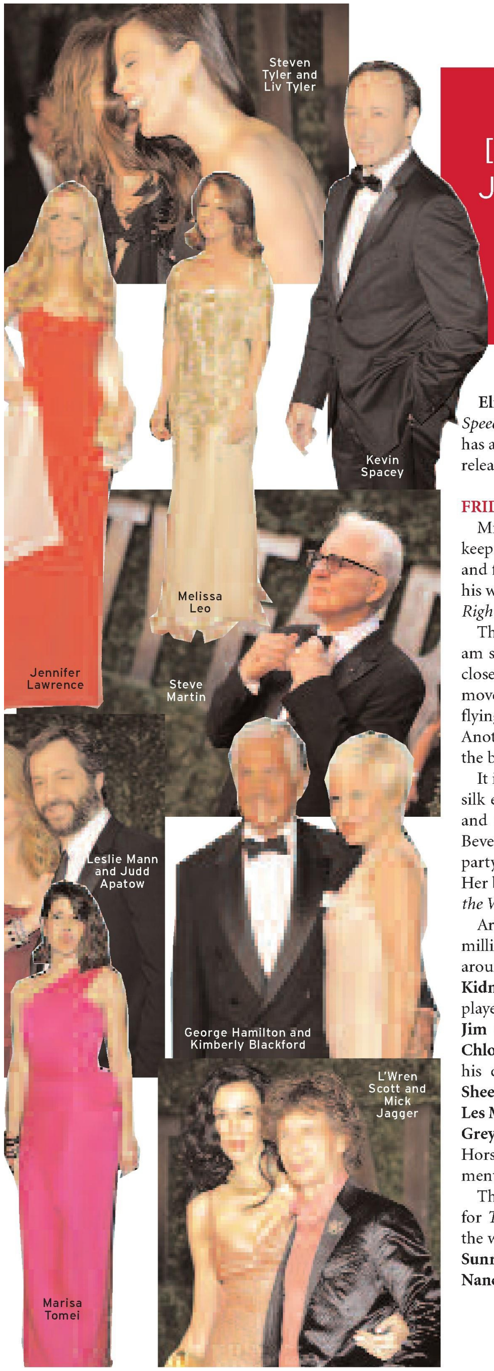
Emma Stone

Gwyneth Paltrow

Tom Hoo

Colin Firth and Anne Hathaway

Carolina Herrera


Steven Tyler and Liv Tyler
Kevin Spacey
Melissa Leo
Jennifer Lawrence
Steve Martin
Leslie Mann and Judd Apatow
George Hamilton and Kimberly Blackford
L'Wren Scott and Mick Jagger
Marisa Tomei

> I whisper to Harrison [Ford], "That looks just like Johnny Depp." Harrison rolls his eyes and reluctantly introduces me to his friend . . . Johnny Depp.

*The Daily Mail* announces Her Royal Highness **Queen Elizabeth** has enjoyed a private screening of *The King's Speech* and is "moved" by the film. With no proof the Queen has actually seen the film, press agents send out a global press release thanking her Majesty for the endorsement.

## FRIDAY, FEBRUARY 24

Mid-day, I arrive at The Beverly Hills Hotel. As the housekeepers unpack my bags upstairs I peek into the Polo Lounge and find **Warren Beatty** in a booth. I tell him I'm rooting for his wife, **Annette Benning**, and love her film, *The Kids Are All Right*. Warren says *The Social Network* will win.

This year I am two days late arriving to Oscar weekend. I am shown to a very, very small room—the size of a broom closet. Uncharacteristically, I have a slight melt down. I am moved. The housekeepers run down the hall with my clothes flying. The hotel is sold out, so I get someone else's room. Another unsuspecting victim checking in downstairs will get the broom closet.

It is cold, grey and rainy. Taffeta, organdy and embroidered silk evening clothes hang in my closet. I stay in my sweaters and fur coat, and head to **Arianna Huffington**'s home in Beverly Hills where she and **Wendi Murdoch** are hosting a party for **Tom Freston**'s wife, the beautiful, blonde **Kathy**. Her book is called *Veganist: Lose Weight, Get Healthy, Change the World*—perfect for monks.

Arianna has just sold the Huffington Post to AOL for $315 million dollars and is rumored to have personally landed around $20 million. She is euphoric as she greets **Nicole Kidman** and **Keith Urban** at the door. Other drenched power players include Disney's **Bob Iger** and wife **Willow Bay**, Fox's **Jim Gianopulos**, **Candice Bergen** and journalist daughter **Chloe Malle**, Google's **Eric Schmidt**, **Oliver Stone** escorting his daughter **Tara** and avoiding questions about **Charlie Sheen**, **Moby**, **Jamie Niven**, **Brian Grazer**, **Vivi Nevo**, CBS's **Les Moonves** and **Julie Chen**, **Rob Reiner**, Paramount's **Brad Grey** and fiancé **Cassandra Huysentruyt** and **Jeff Bezos**. Hors d'oeuvres include pigs in blankets—a food group not mentioned in Kathy's book.

The action migrates to UTA **Jim Burkus**' home for a party for *True Grit*'s **Ethan** and **Joel Coen**. I pass **Ron Howard** on the way in and he says, "Keep me on your list." Is he kidding? **Sunrise** and **Mark Ruffalo**, Focus Feature's **James Shamus**, **Nancy Meyers** and **John Goldwyn** mingle. Adorable **Hallie Steinfeld** is there with her parents. I am trying to fix her up with **Justin Bieber**. She giggles, "Peg, I am only 14."

I am face to face with **Harrison Ford** and stupidly tell him I love him in *Morning Glory*. He's looking at me in utter disbelief, but I will not shut up. A gorgeous guy is inches away in a hat and glasses. I whisper to Harrison, "That looks just like **Johnny Depp**." Harrison rolls his eyes and reluctantly introduces me to his friend . . . Johnny Depp. I babble a bit about his great work then run for cover in a corner next to my buddy, **Jerry Bruckheimer**.

I head over to the CAA/**Bryan Lourd**'s "Friday Night Party." Torrential rains and horrific winds cause a traffic jam that makes it impossible to get near the house. The world's most famous faces cower under black umbrellas and make a run for it. Bryan Lourd and **Bruce Bozzi** receive friends at the door all night.

Inside, **Uma Thurman** tells me she finally moved into a doorman building in New York after being terrorized by stalkers for years. **Ben Walker** talks about *Abraham Lincoln: Vampire Hunter*, which he is about to shoot, while his fiancé, **Mamie Gummer**, looks sexy shivering in a white satin gown. Producer **Jon Kilik** mentions he oversaw a new cut of **Julian Schnabel**'s *Miral*, to be released in March. **Bennett Miller**, standing with **Kristin Gore**, says Sony loves his new film, *Moneyball*, and **Brad Pitt** is terrific. (When is Brad Pitt not terrific?) **Sandy Gallin** tells me he has an actual job decorating **Jeffrey Katzenberg**'s home. I congratulate **Barry Levinson**'s son **Sam**, a director, for winning the writing award at Sundance for his first film, *Another Happy Day*.

Also seen floating around are **Taylor Swift** and **Jake Gyllenhaal**—but not together—**Sean Penn**, **Tom Cruise** and **Katie Holmes**, **Anderson Cooper**, **Hilary Swank**, **Kelly Ripa**, **Paul Haggis**, **Marisa Tomei**, **Kate Beckinsale**, **Demi Moore** and **Ashton Kutcher**, **Kate Hudson**, **Gerard Butler**, **Renee Zellweger** with **Bradley Cooper**, *Biutiful* director **Alejandro Gonzalez-Inarritu**, **Kathryn Bigelow** and **Mark Boal**, **Ellen Barkin** (who is headed to Broadway in *The Normal Heart* this spring) and CAA's **Kevin Huvane**, **Richard Lovett** and **Hylda Queally**. Sony Classic's **Michael Barker** tells me *The Social Network* will win.

Tired celebs try to go home, but limo lock is at a standstill. Cell phones don't work in the area. Two hundred swells become party prisoners and happily hang out till 5 a.m.

## SATURDAY, FEBRUARY 26

Out comes the sun and dries up all the rain. IAC chairmen and owner of *Newsweek*/The Daily Beast **Barry Diller** and his wife **Diane Von Furstenberg** (with her kids **Alex** and **Tatiana**) host their 15th annual lunch for **Graydon Carter** in their Coldwater Canyon home. Barry introduces me to his star guest, Gov. **Jerry Brown**, just elected to his third (nonconsecutive) term as California governor.

Like last year, enormous clear plastic tents are erected on the hill near the house. Long wooden picnic tables sit on oriental rugs covering the soggy ground. VIPs wears winter clothes, comfy sweaters and sensible shoes. I arrive in a fur coat.

Stephen Gaghan and Minnie Mortimer
Armie Hammer
Charlize Theron
Kate Beckinsale
Scarlett Johansson
Aaron Sorkin
Lourdes Leon and Madonna

Wendi Murdoch, Kathy Freston and Arianna Huffington

orgina apman

Natalie Portman

Everybody knows everybody, and it doesn't matter if you have a hit film or T.V. show this season. **Oprah Winfrey** kisses **David Geffen**, casually chats with former Disney C.E.O. **Michael Eisner** and current Sony Chief **Sir Howard Stringer** and **Rob Weisenthal**. **Brett Ratner** arrives with his houseguest **Jean Pigozzi**, who is allowed to take photographs. Graydon greets people with chic wife **Anna** by his side.

**Ingrid Sischy** and **Sandy Brant**, **Rupert Murdoch**, **Ron Meyer**, **Francesco Clemente** with his twin boys and **Tom Ford** chat each other up. People to watch include pregnant **Victoria** and **David Beckham** with **Lynn Wyatt**, **Fran Lebowitz**, **Larry Gagosian** and **Shala Monroque**, **Ben Silverman**, **Debbie** and **Allen Grubman**, Sotheby's **Tobias Meyer** and **Mark Fletcher** and **Stephen Gaghan** and **Mini Mortimer** wearing her over-sized cat glasses.

I head over to the CAA/Bryan Lourd's "Friday Night Party." Torrential rains and horrific winds cause a traffic jam that makes it impossible to get near the house. The world's most famous faces cower under black umbrellas and make a run for it.

Hilary Swank

neron iaz

Brian Grazer and Jeff Bezos

Tom Ford

**Bruce Cohen** has invited me to the Oscar broadcast rehearsal. Inside the Kodak Theater's massive auditorium, I find a seat next to his proud parents. I watch **Josh Brolin** and **Javier Bardem** come out in white dinner jackets and flub their lines as they pretend to present Best Adapted Screenplay and Best Original Screenplay. Josh will later tell me that their acting methods are completely opposite: he's a quick study and is very creative and comfortable ad-libbing; Javier, whose mother tongue is Spanish, likes to have every syllable printed out to study with a dialect coach. Life-size photos on cardboard plaques are taped to each nominee's chair. I memorize their location so when I return Sunday I can quickly kiss them all.

Back at the Beverly Hills hotel I slip into my black tulle **Dennis Basso** cocktail dress with a plunging neckline and put on my mother's jewels. **Jim Coleman** takes me to the "Night Before Party" in the hotel. This is *Jeffrey Katzenberg*'s 9th annual A-lister event benefiting The Motion Picture & Television Fund where they raise $6.5 million dollars in 1 night. I walk into **Valentino**, who gives me an approving once-over. I tell him and **Giancarlo Giammetti** that **Woody Allen**'s new film, *Midnight in Paris*, is opening the Cannes Film Festival and they must bring the yacht.

**Elton John** and **David Furnish** join our conversation so of course we ask for intimate details about baby **Zachary**. I segue over to **Amy Adams**, who, like them, mentions she hates leaving her baby in the hotel room. Next stop is **Kate Capshaw** in a black bowler hat chatting with **Steven Spielberg**'s god-daughter, **Gwyneth Paltrow**. I have known Steven for years (in 1982 I was a publicist on *E.T.*). I now tell him I'm going to the Lincoln Center opening of *War Horse* with **Kathy Kennedy** and **Frank Marshall** and cannot wait to see his movie version.

I meet sweet **Jennifer Aniston**, her new haircut and her perfect little body. Her date tells me her secret is a half-hour on the treadmill everyday—such an understatement. I tell **Jesse Eisenberg** I was on his plane home from the Baftas last week, but he was hiding under his hoodie. He says innocently, "You should have said 'hello.' I always cover my head because I think my curls make me look like a girl."

The charity gives us a coupon booklet redeemable at various booths. Rich people run around like lunatics, collecting gifts for their housekeepers. Among the shoppers are **Steven** and **Heather Mnuchin**, Viacom's **Deborah** and **Philippe Dauman**, **Tamara Mellon**, **Christine Taylor** and **Ben Stiller**, **Cate Blanchet**, **Susan** and **Robert Downey Jr.** and **Debra** and **Hugh Jackman**.

Next stop is The Weinstein Company's party at the Soho House sponsored by MontBlanc. Long gone are the funky Miramax Saturday night soirees where nominees spoofed their own films in homemade costumes and ad-libbed hilarious skits. No more grown men dressed as **Anna Paquin** playing the piano in hopes of winning a Max Award.

As I come in, a 400-pound gorilla refuses to let me on the elevator. Once on, I see **Jennifer Lopez** in the corner and remind her we met on **Len Blavatnik**'s yacht in Cannes. She graciously pretends to remember me. Her manager, **Benny Medina**, is kicking me.

I slip into Colin Firth's booth to have a tête-à-tête with him and his wife **Livia Giuggioli**. Jokingly, I suggest he say "I'm speechless" when he wins. Colin patiently assures me many people, far more clever than I, thought of this. He then says that others are waging bets on whether he might subconsciously stutter. I grill him about his wardrobe, assuming he will be wearing a new **Tom Ford** tuxedo. He tells me both he and Ford will be in older Ford models. I tell him I made rich-but-thrifty **Charles Ferguson**, director of *Inside Job*, spend $6,000 dollars for a new Tom Ford tux.

In the back room, Jennifer Lopez is now seated with Weinstein's wife, **Georgina Chapman**. **Helena Bonham Carter**, her live-in-lover **Tim Burton** and her mother **Elena** circulate. Star power includes **Adrien Brody**, **Mary-Kate** and **Ashley Olsen**, **Cameron Diaz**, **Camilla Belle**, **Chace**

Adrien Brody

Claire Danes an Hugh Dancy

Hailee Steinfeld

Vera Farmiga

Andrew Garfield

Tayl Swif

Oliver Stone and Tara Stone

Barry Diller

Chloe Malle and Candice Bergen

Anderson Cooper

Diane Von Furstenberg

Lynn Wyatt

Jon Hamm and Jennifer Westfeldt

Tory Burch

**Crawford**, **Claire Danes** and **Hugh Dancy**, **Darren Aronofsky**, director **John Wells**, **Kerry Washington**, **Piers Morgan**, **Rachel Zoe**, **Sean Parker**, **Zack Braff** and **Leonardo Dicaprio** with **Bar Rafaeli**. Speech filmmakers are functioning on high anxiety.

### SUNDAY, FEBRUARY 27

Producer **Donna Gigliotti** is my date to the awards. We are both so nervous we arrive at the Kodak Theater at 3 p.m. and nobody is there. We are driven around for an hour. When we arrive back at the world's most famous red carpet, I guide Donna through security check-in to the extreme right to make sure we get on camera. I teach her the red carpet hustle, which is five steps forward, three steps back, one inch behind a couture-clad nominee. We greet **Kevin Huvane** as **Sandra Bullock** is talking to ABC-TV and a billion people see me wearing a black Marchesa gown. Five steps forward, three steps back, we next meet **Gwyneth Paltrow**, and I hook up the back of her dress while another billion people see me correct the fashion malfunction. Five steps forward, three steps back, we're now posing behind Nicole Kidman and Keith Urban. Our Blackberrys begin buzzing; the world has seen us.

James Franco and **Anne Hathaway** are hip hosts. This is the year of no surprises. But it isn't until **Hilary Swank** yells out Hooper's name for Best Director that Harvey's gang finally realizes they are getting the Oscar for Best Picture after all. Harvey is sitting in Spielberg's seat as Spielberg announces the win from the stage. Producers **Iain Canning**, **Emile Sherman** and **Gareth Unwin** leap up and kiss each other. Six months of grueling work have finally paid off. King George VI and Harvey Weinstein now share the journey of a single man who triumphs over adversity.

At the Governor's ball, held above the Kodak Theater, the winners triumphantly sachet around the room holding their heavy eight-pound gold statues.

An hour later there is a migration to the *Vanity Fair* party hosted by Graydon Carter at **Jeff Klein**'s Sunset Tower Hotel. The invitation features a gold hologram that transmits a radio frequency of a photo and details about the guest to *VF* staff as they arrive. The next day "Page Six" will report that the backup private security firm is run by a former Israeli operative, when in fact they are Irish Catholics from Staten Island.

There's a hierarchy of arrival times. At 5 p.m. the inner circle of Graydon's 141 best friends attend a seated dinner. They include Barry Diller and Diane von Furstenberg, **Francis Ford Coppola**, **Jon Hamm** and **Jennifer Westfeldt**, **Betsey Bloomingdale**, **Tory Burch** and **Lyor Cohen**, **Carolina** and **Reinaldo Herrera**, **L'Wren Scott** and **Sir Mick Jagger**, **Naomi Watts** and **Liev Schreiber**, **Wendi Stark**, **George Hamilton**, **Judd Apatow**, **Jackie** and **Joan Collins**, **Donna Karan** and **Steve Martin**.

The best and the brightest talent in town arrive at 9 p.m. Every single winner shows up. Also there are Justin Bieber and his date **Selena Gomez**, **Michelle Williams**, **Emma Stone**, **Steve Tyler and Liv Tyler**, **Andrew Garfield**, **Jude Law**, **Armie Hammer**, **Vera Farmiga**, **Kevin Spacey**, **Charlize Theron**, Anne Hathaway, *Winter's Bone* star-of-tomorrow **Jennifer Lawrence**, **Taylor Hackford** and **Helen Mirren**, **Scarlett Johansson**, **Isla Fischer** and **Sasha Baron Cohen**, **Tom Hanks**, **Sean Penn**, **Renee Zellweger** and **Bradley Cooper** and **Jane Fonda** after her play, *33 Variations*. I introduce **Melania** and **Donald Trump** to **David O. Russell** as The Trumpster gushes about *The Fighter*. David tells Donald he used to be a waiter/bar tender at many of Trump's parties. Donald smiles as if looking at yet another apprentice. He then offers me a ride home on his plane; he's leaving in 10 minutes. Too bad James Franco didn't know because he is presently sitting on a commercial flight back to school, skipping his own after-party. The rest of the guests' social standings are determined by half-hour increments. *VF*'s **Beth Kseniak**, **Matt Ullian** and **Jane Sarkin** tell me the list is cut down to 800 this year.

At 11:30 p.m. there is another celebrity migration up the hill to **Madonna** manager **Guy Oseary**'s house. Earlier in the evening, Madonna came down the hill to pose in a risqué see-thru outfit with daughter **Lourdes**. Madonna and co-host **Demi Moore** are able to lure the crème de la crème with the promise of dancing and no cameras.

> I introduce Melania and Donald Trump to David O. Russell . . . David tells Donald he used to be a waiter/bar tender at many of Trump's parties. Donald smiles as if looking at yet another apprentice.

### MONDAY, FEBRUARY 28

A winner's work is never done. Colin Firth, Tom Hooper and David Seidler show up at 4:30 a.m. at The Four Seasons Hotel for a live broadcast on "The Today Show." Functioning on an adrenalin rush, they return to the Kodak Theater with Geoffrey Rush to appear on Oprah's live broadcast.

By the end of this year's thrilling race between two great producers—Scott Rudin and Harvey Weinstein—Facebook and Twitter are credited for aiding political justice from the streets of Cairo to Tripoli. But the British film with the most heart wins as one single human voice can still make a difference. The king has spoken. ✦

Donald and Melania Trump

Fran Lebowitz

Naomi Watts

Ellen Barkin

Julie Chen

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# Jeffrey Epstein's attorneys fight to keep plea discussions private

John Pacenti
2011-04-21 12:00:00 AM

Miami attorney Roy Black and two other high-profile attorneys who represented billionaire sex offender Jeffrey Epstein have asked a federal judge to prohibit two alleged victims from obtaining correspondence between the defense team and federal prosecutors who hammered out a nonprosecution agreement.

The two women identified in court papers only as Jane Doe 1 and Jane Doe 2 say the agreement should be invalidated because they were not adequately informed of the plan not to file federal charges against Epstein.

The defense attorneys' motion to intervene states the sanctity of plea talks would be undermined if U.S. District Judge Kenneth Marra in West Palm Beach allows the correspondence to be used in the third-party civil action brought by the alleged victims.

New York litigator Jay Lefkowitz and Boston criminal defense attorney Martin G. Weinberg joined Black in the motion filed April 7.

The fight over the records comes amid claims that the defense strong-armed prosecutors into a cushy deal for Epstein.

"The release of these letters and the precedent it would establish would have a severe chilling effect on the lawyers' ability to engage in candid settlement discussions with the government in future cases," the 13-page motion reads. "Indeed, to the extent such written correspondence is deemed discoverable by third parties, criminal defense attorneys and the government's lawyers alike would lose the ability to negotiate such agreements."

The alleged victims maintain evidence shows Epstein molested more than 30 girls from 2001 to 2007, luring them to his Palm Beach mansion on the pretext of giving him a massage.

As part of the nonprosecution agreement, he pleaded guilty to a state charge of soliciting sex with a minor and served 13 months of an 18-month sentence. He resurfaced recently in New York and has become the subject of news reports about socializing with Britain's Prince Andrew.

### Personal Inquiry

The women say the nonprosecution agreement should be scuttled and Epstein should be open to federal charges because they were not adequately consulted as required under the Crimes Victims Rights Act. They seek disclosure of all correspondence between Epstein's attorneys and the government, claiming it would show prosecutors failed to meet their obligation to keep them and other victims informed.

The U.S. attorney's office argued in a 54-page response April 8 to the women's lawsuit that the law does not apply because no federal charges were filed against the financier, only a state charge.

The women were denied access to the letters in their civil lawsuit against Epstein, which was settled. The motion by Black, Lefkowitz and Weinberg said there is "no doubt" the women aim to disseminate the material to news outlets. They urge Marra to "decline the invitation to fuel the media campaign against Mr. Epstein."

Epstein has had plenty of trouble avoiding the media of late. Reports about his friendship with Prince Andrew sparked a March 20 three-page letter from Alex Acosta, U.S. attorney when the agreement was reached, to the Daily Beast online news site.

Acosta said the federal government intervened in Epstein's case at request of police because the Palm Beach state attorney's office was going to offer him a deal with no jail time. Acosta said his office secured, through the nonprosecution agreement, jail time for Epstein, his plea to a sex crime against a minor and his designation as a sex offender.

Acosta's letter said Epstein's defense team was not happy with these conditions and tried to hire private investigators to delve into the personal lives of prosecutors assigned to the case as a way of undermining the office's insistence on conditions that went beyond the state case.

"Defense counsel investigated individual prosecutors and their families, looking for personal peccadilloes that may provide a basis for disqualification," Acosta wrote.

Sources say the efforts targeted Assistant U.S. Attorneys Jeffrey Sloman and Ann Marie Villafaña. Acosta refused to remove them.

Acosta, now the law dean at Florida International University in Miami, said he had no comments beyond his letter. The U.S. attorney's office also declined to comment.

Sloman, who took over as acting U.S. attorney when Acosta became FIU's law dean, later joined the Ferraro Law Firm in Coral Gables, said only, "Alex's recollection is correct."

Black, in an interview with the Daily Business Review, denied Acosta's assertions that the Epstein defense team examined the prosecutors.

"We don't investigate prosecutors," he said. "As far as I know that wasn't done."

Black also denied there was any effort to pressure the U.S. attorney's office to back off Epstein.

"It is absurd to say that the target of a federal criminal investigation could put undo pressure on the United States, the government, the Department of Justice, the U.S. attorney's office and the FBI," Black said.

Weinberg, who challenged a Justice Department policy of seizing e-mail through secret subpoenas to Internet service providers, also said to his knowledge no private investigator was hired. Lefkowitz, a partner at Kirkland & Ellis in New York who drafted President George W. Bush's policy on stem cell research, did not return a phone call for comment by deadline. Black and Weinberg said they still represent Epstein.

**Fodder For Litigation**

The motion to intervene does not claim the letters are attorney-client privilege and makes a point of saying Epstein reserves his right to intervene individually.

Weinberg said turning the confidential correspondence over to the Jane Does would violate the federal rules of evidence and cast a chill over the criminal defense bar, which would rightly be concerned that anything they tell the government could boomerang into civil litigation against clients.

"Neither party expected or believed these letters would later become a source of information that would be used for any other purpose," Weinberg said. "We believe the issue raised before Judge Marra has importance beyond just the litigation between the government and the Jane Does."

Bradley J. Edwards, a partner with Farmer Jaffe Weissing Edwards Fistos & Lehrman in Fort Lauderdale, represents the Jane Does. He didn't want to get into his planned response to the motion to intervene but said Acosta's letter will not affect the case.

Edwards agreed with Acosta that the Palm Beach state attorney's office faltered on the Epstein case. A call to the Palm Beach State Attorney's Office spokeswoman was not returned by deadline.

"There has never been a stronger case for the state to prosecute, and the case should have been prosecuted by the state," Edwards said. "The state totally dropped the ball, but once the feds took the case over, they too unfortunately dropped the ball."

Edwards refutes Acosta's position that the U.S. attorney's office was hampered by the lack of a clear "interstate nexus" required for federal prosecution. Evidence indicates Epstein flew on his private plane out of state with the intent to engage in sex with minors and used his telephone, a means of interstate commerce, to set up his rendezvous with underage girls, Edwards said.

Edwards contends the U.S. attorney's office caved.

"They identified a bunch of victims of sexual abuse and decided to align themselves with a bad guy and keep the victims in the dark about the secretive nonprosecution agreement they were giving to Epstein," he said.

SEARCY
DENNEY
SCAROLA
BARNHART
& SHIPLEY P.A.
Attorneys at Law

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**VIA EMAIL AND U.S. MAIL**
[redacted]

March 22, 2011

Robert B. Carney, Special Master
2281 Saratoga Lane
West Palm Beach, FL 33409

Re: Edwards adv. Epstein
Our File No.: 291874

Dear Judge Carney:

Attached please find the Master Contact List pursuant to your Interim Report in this matter.

Sincerely,
Dictated But Not Signed By
Jack Scarola To Expedite Delivery

JACK SCAROLA
JS/mep
Enc.

cc: Bradley J. Edwards, Esq.
Joseph L. Ackerman, Esq.
Christopher Knight, Esq.

# MASTER CONTACT LIST REGARDING Privilege Log – Dated 2-23-2011
# Farmer, Jaffe, Weissing, Edwards, Fistos & Lehrman

| CONTACT NAME | IDENTITY |
|---|---|
| Adam Horowitz | Counsel for other Epstein Victims |
| Adam Steinberg | Attorney RRA |
| Alan Garten | Donald Trump's attorney |
| Amy Ederi | Robert Josefsberg's daughter |
| Amy Swan | Expert in Epstein Case |
| Anthony P | RRA CLIENT |
| Attorneys at RRA | |
| Barry Stone | Attorney RRA |
| Bert Patton | Legal Assistant to Robert Josefsberg |
| Beth Williamson | Paralegal RRA |
| Bradley Edwards | Attorney RRA |
| Cara Holmes | Attorney RRA |
| Carl Linder | Attorney RRA |
| Carla Martinez | Law Clerk at RRA |
| Carolyn | (Legal Asst. to Jay Howell, Co-Counsel) |
| Carolyn Edwards | (Legal Asst. to Jay Howell, Co-Counsel) |
| Confidential Source | |
| Christina Fitch | Staff RRA |
| Denis Kleinfeld | Attorney RRA |
| D.F. | Client (Epstein Case) |
| Dr. Lee | Expert (Epstein Case) |
| Earleen Cote | Attorney |
| Elizabeth Kim | Paralegal RRA |
| Elizabeth Villar | Legal Assistant RRA |
| Gary Farmer | Attorney RRA |
| Grant Smith | Attorney RRA |
| Ileana Yarzabal | Prior Paralegal to Robert Josefsberg |
| Investigators | Investigators RRA |
| Jack Hill | Counsel for other Epstein Victims |
| Jack Scarola | Counsel for other Epstein Victims |
| Jacquie Johnson | Paralegal RRA |
| Jessica Caldwell | Attorney Critton's Assistant |
| Josh Roberts | Attorney |
| Jonathan Birkman | Attorney RRA |

# MASTER CONTACT LIST REGARDING Privilege Log – Dated 2-23-2011
# Farmer, Jaffe, Weissing, Edwards, Fistos & Lehrman

| | |
|---|---|
| Katherine Ezell | Counsel for other Epstein Victims |
| Kikka Claudio | Assistant to Attorney Jack Hill |
| Kendall Coffey | Special Counsel to RRA on Epstein Case |
| Ken Jenne | Investigators RRA |
| Lisa Rivera | Legal Assistant to Adam Horowitz |
| Litigation Team | RRA attorneys and staff |
| Marc Nurik | Attorney RRA |
| Margaret Berk | Legal Assistant to Spencer Kuvin |
| Maribel Matiska | RRA Paralegal |
| Mark Fistos | Attorney RRA |
| Mercedes Estrada | Katherine Ezell's Assistant |
| MG | Client (Epstein Case) |
| Michael Wheeler | Attorney RRA |
| Mike Fisten | Investigators RRA |
| N.R. | Client communication |
| Nora Batian | RRA Staff |
| Pasqual "Pat" Diaz | Investigators RRA |
| Pat Roberts | Investigators RRA |
| Paul Cassel | Co-Counsel on Epstein Case |
| Phaedra Xanthos | Forensic Accountant |
| Priscila Nascimento | Staff RRA |
| Richard Willits | Attorney |
| Richard Wolfe | Attorney RRA |
| Robert Buschel | Attorney RRA |
| Robert C. Josefsbergs | Counsel for other Epstein Victims |
| Robin T. Kempner | RRA Staff |
| Ronald Wise | Forensics (Epstein Case) |
| RRA Personnel | RRA |
| Russell Adler | Attorney RRA |
| Scott Goldstein | Attorney RRA |
| Scott Rothstein | Attorney RRA |
| Seth Lehrman | Attorney RRA |
| Shawn Gilbert | Prior Legal Assistant to Brad Edwards |
| Sid Garcia | Counsel for other Epstein Victims |
| Spencer Kuvin | Counsel for other Epstein Victims |
| Steven Jaffe | Attorney RRA |
| Stuart Mermelstein | Counsel for other Epstein Victims |

# MASTER CONTACT LIST REGARDING Privilege Log – Dated 2-23-2011
# Farmer, Jaffe, Weissing, Edwards, Fistos & Lehrman

| | |
|---|---|
| Susan K. Stirling | RRA Staff |
| Tami Wolfe | Attorney RRA |
| T. Edwards | Brad Edwards Wife |
| Unknown Staff | RRA STAFF |
| Wayne Black | Private Investigator |
| William J. Berger | Attorney RRA |

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**From**: Stephanie [redacted]
**Sent**: 6/14/2011 4:54:35 PM
**To**: jeevacation@gmail.com
**CC**: Lesley Groff [redacted]
**Subject**: RE: Events this week

**Importance**: High

Other events that are not listed below (they were sent over from Marshall Heyman at the WSJ) Let me know if you are interested.

Tonight: Red Rooster for Halle Berry, Simon & Schuster party for publication of the new James Bond Novel & the opening of Spiderman w/ an after party at bowlmore.
Wednesday: Self Magazine & Zooey Deschanel Party
Thursday: Worldwide Orphans w/ Amy Poehler

CALENDAR OF MAJOR EVENTS, OPENINGS, AND FUNDRAISERS IN NEW YORK

# Tuesday, June 14, 2011

Sunrise: 5:25 am Sunset 8:26 pm Moon:
High: 77 Low: 61

## After-School All-Stars of New York

PRINT | MAP | TWEET
Benefit Mandarin Oriental New York. New York. Contact: Janice Phillips. [redacted]
Event address: 80 Columbus Circle, New York. Event web address: www.asasny.org.
Tags: Fundraiser Child Advocacy Education K-12.
EXPAND

## New York Area Professional Convention Management Association

PRINT | MAP | TWEET
Luncheon Reception, networking and program. Doubletree Guest Suites. New York. Contact: Shannon Harris. [redacted]
Event address: 1568 Broadway, New York. Event web address: pcma.org.
Tags: Discussion Luncheon Networking Association.
EXPAND

## Business Development Institute

PRINT | MAP | TWEET
Mobile Financial Services Communications Leadership Forum Disucssions. New York University Midtown Campus. New York. Contact: Maria Feola. [redacted].
Event address: 11 West 42nd Street, New York. Event web address: www.bdionline.com/mobilefinancialforum0611.html.
Tags: Discussion Education Adult.
EXPAND

## New York Professional Convention Management Association

PRINT | TWEET
Taking Care of Business: Moving from Success to Significance Discussions and networking. Business attire. Speaker(s): Sue Hershkowitz-Coore. Doubletree Times Square. Contact: Shannon Harris. [redacted].
Event address: 1568 Broadway 47th Street, New York,. Event web address: www.pcma.org/x147.xml?events=x19306.
Tags: Discussion Networking.
EXPAND

## Agape International Spiritual Center

PRINT | MAP | TWEET

Gala and Premiere Screening 6:00 pm. "Discover the Gift." VIP reception, followed by viewing. Hosted by Michael Bernard Beckwith. Tickets from $20.00. Buy Tickets. NYU Skirball Center for the Performing Arts. New York.
Event address: 586 LaGuardia Place, New York. Event web address: skirballcenter.nyu.edu/calendar/discoverthegift.
Tags: Premiere Reception Screenings.
EXPAND

## City Parks Foundation

PRINT | TWEET

Summerstage Gala 6:00 pm. Cocktails, dinner and concert. "Motown Meets NYC," theme. Tickets from $1,000.00. Central Park-Rumsey Playfield. New York. (212) 360-2756.
Event address: East 72nd St. off Fifth Ave., New York. Event web address: www.summerstage.org/donate_now/gala.html.
Tags: Concert Gala Opening Arts Performing Arts Environmental.
EXPAND

## Greater New York Construction User Counci

PRINT | TWEET

2011 Chairman's Reception 6:00 pm. Cocktails and program. Hosted by Jonathan D. Resnick. Steelcase. New York.
Event address: 4 Columbus Circle, New York. Sponsored by Jack Resnick & Sons, Inc,McGowan Builders, Inc,Turner Construction. Event web address: buildingcongress.com.
Tags: Awards/Awards Shows Association.
EXPAND

## ABWA - Association of Black Women Attorneys

PRINT | MAP | TWEET

35th Anniversary Celebration 6:30 pm. Cocktail reception, followed by dinner, awards and dancing. Speaker(s): Kim K.W. Rucker. Chaired by B. Shea Owens. Tickets from $250.00. Chelsea Piers. New York. Contact: Sponsorships:. (888) 933-2442.
Chelsea Piers: Pier Sixty. Event address: 23rd St. at the Hudson River, New York.
Tags: Gala Association.
EXPAND

## UJA-Federation of New York

PRINT | MAP | TWEET

Digital Media and Marketing and Communications Dinner Cocktails and program. Business attire. Honoring Tim Armstrong, Jack Haber. The Pierre Hotel. New York. (212) 836-1853.
Event address: 2 East 61st St., New York. Event web address: ujafedny.org.
Tags: Dinner Association.
EXPAND

## amfAR

PRINT | MAP | TWEET

Annual Inspiration Gala 7:00 pm. Cocktails, presentations, runway show, dinner, live auction and performances by Liza Minnelli and Jennifer Hudson. “Black Tie, Hot Metal," theme. Honoring James Franco,Michael Kors. Chaired by Klaus Bisenbach, Larry Boland,R. Martin Chavez, Ph.D, Paolo Diacci,Adam Norbury. MoMA - Museum of Modern Art. New York. Contact: Wilson Alexander Aguilar.
Event address: 11 West 53rd Street, New York. Sponsored by Grey Goose,Piaget,Reca Group,Wilhelmina Models. Event web address: www.amfar.org/spotlight/event.aspx?id=9522.
Tags: Gala Health AIDS.
EXPAND

## GenArt

PRINT | MAP | TWEET
Film Festival Closing Night 7:30 pm. Screenings of "Hot Dogs & Hand Grenades," by Justin Corsbie and "Salvation Boulevard," by George Ratliff, followed by after-party and awards presentation at Hiro (88 9th Ave). Visual Arts Theater. New York.
Event address: 333 West 23rd Street, New York. Event web address: genart.org.
Tags: After party Awards/Awards Shows Screenings Arts Film Arts Visual Arts.
EXPAND

## Making Books Sing

PRINT | MAP | TWEET
Fundraiser 7:30 pm. Beer, brewery tours and light fare. Hosted by Cat Greenleaf, Talib Kweli. Tickets from $15.00. Brooklyn Brewery. Brooklyn. Contact: Kimberly Wilson Marshall.
Event address: 79 North 11th St., Brooklyn. Event web address: makingbookssing.org.
Tags: Fundraiser Education K-12.
EXPAND

# Wednesday, June 15, 2011

Sunrise: 5:25 am Sunset 8:27 pm Moon:
High: 79 Low: 62

## NYSAE-New York Society of Association Executives

PRINT | MAP | TWEET
Installation of Officers & Directors Luncheon 11:30 am. Reception and program. Speaker(s): Dr. Jerry V. Teplitz. Tickets from $65.00. Doubletree Metropolitan Hotel. New York. (212) 206-8230.
Event address: 569 Lexington Ave., New York. Event web address: www.nysaenet.org.
Tags: Luncheon Association.
EXPAND

## Women's Forum of New York

PRINT | MAP | TWEET
Inaugural Elly Awards 11:30 am. Lunch and program. Hon. chairs: Lucy Jarvis and Muriel Siebert. Hosted by Janice Reals Ellig. Speaker(s): Bobbi Brown,Barbara Walters. Honoring Evelyn H. Lauder,Diana Taylor. Chaired by Jane Chesnutt,Denise Seegal. Co-chaired by Beth Canavan,Lisa Caputo,Barbaralee Diamonstein-Spielvogel. Tickets from $300.00. Tables from $5,000.00. The Plaza Hotel. New York. Contact: Rita Crotty. [redacted].
Event address: 770 Fifth Ave, New York. Event web address: www.womensforumny.org.
Tags: Awards/Awards Shows Fundraiser Luncheon Education Adult.
EXPAND

## Hike for Heroes

PRINT | MAP | TWEET
Reception Ceremony. Business casual attire. Chaired by Mitchell B. Modell. Tickets from $140.00. Sheraton New York Hotel & Towers. New York. Contact: Lindsay Carlton. [redacted].
Event address: 811 Seventh Ave., New York. Sponsored by Modell's Sporting Goods. Event web address: www.wishuponahero.com/hike-for-heroes/cocktail-party.
Tags: Reception Civic Family/Social Services.
EXPAND

## UJA-Federation of New York

PRINT | MAP | TWEET
Annual Trust & Estates Event 6:00 pm. Cocktail reception, followed by program and dessert. Business attire. Honoring Ronald J. Stein. Tickets from $650.00. Hilton New York. New York. Contact: Meredith Waltzer. [redacted].
Event address: 1335 Avenue of the Americas, New York. Event web address: ujafedny.org.

Tags: Cocktail party Association.
EXPAND

## UJA-Federation of New York

PRINT | MAP | TWEET
General Insurance Dinner Business attire. Honoring Kevin Kelley, Stephen P. McGill. Chaired by Joseph Boren. Grand Hyatt New York. New York. Contact: Loni Kraut. [redacted].
Event address: Park Ave. at Grand Central Terminal, New York. Event web address: ujafedny.org.
Tags: Awards/Awards Shows Dinner Association.
EXPAND

## UNICEF-United Nations Children's Fund

PRINT | TWEET
Next Gen Photo Benefit 6:30 pm. Cocktails, hors d'oeuvres and silent auction. Tickets from $40.00. Phillips de Pury.
Event address: 450 Park Avenue,. Event web address: www.unicefusa.org/about/special-events/nextgen/photo-exhibit.html.
Tags: Auction Cocktail party Child Advocacy.
EXPAND

## RIOULT Dance Company

PRINT | MAP | TWEET
Gala 7:00 pm. Performance and dinner. Honoring Robert Cole,Harsha Murthy. Tickets from $350.00. Joyce Theater. New York.
Event address: 175 Eighth Ave., New York.
Tags: Benefit Performance Gala Arts Performing Arts.
EXPAND

# Thursday, June 16, 2011

Sunrise: 5:25 am Sunset 8:27 pm Moon:
High: 79 Low: 62

## New York Building Congress

PRINT | MAP | TWEET
Reception for Speaker Christine C. Quin 8:00 am. Breakfast. Hosted by Richard Anderson, Joseph Mizzi,Frank J. Sciame. Tickets from $500.00. Sciame Organizations. New York. Contact: Ånne Mullaly Weir. [redacted].
Event address: 14 Wall Street, New York. Event web address: newyorkbuildingcongress.com.
Tags: Breakfast Speakers Fundraiser Association Politics Democratic.
EXPAND

## UJA-Federation of New York

PRINT | MAP | TWEET
Music Visionary Luncheon Reception and program. Honoring Jody Gerson, Jon Platt. The Pierre Hotel. New York. Contact: Steven Singer. [redacted].
Event address: 2 East 61st St., New York. Event web address: ujafedny.org.
Tags: Luncheon Association.
EXPAND

## Jewish Enrichment Center

PRINT | MAP | TWEET
2011 Grand Reception 5:30 pm. VIP reception, cocktails, dinner and presentation. Speaker(s): President George H.W. Bush. Honoring Craig A. Rothfeld,Stephen Siegel, Ari J. Storch. Gotham Hall. New York. (212) 889-5532.
Event address: 1356 Broadway, New York. Event web address: jeconline.com/dinner.
Tags: Fundraiser Reception Faith Jewish.

EXPAND

## Professional Women In Construction

PRINT | MAP | TWEET
Networking Event 5:30 pm. Cocktails and dinner. Speaker(s): Michele Medaglia. Tickets from $80.00. Club 101. New York.
Event address: 101 Park Ave., New York. Event web address: pwcusa.org.
Tags: Dinner Discussion Networking Association.
EXPAND

## Asian American Business Development Center

PRINT | MAP | TWEET
Tenth Anniversary Outstanding 50 Award Gala 6:00 pm. Cocktails, dinner and program. Co-chaired by Shaokao Cheng,Miguel Centeno,Joyce Chang,Renaud Dutreil,Edward Goldberg, Jim Hirani, Allan Huy, Peter Hwang, Eugene Kelly, Catherine Lee, Walter Shay. Waldorf=Astoria. New York. (212) 966-0100.
Event address: 301 Park Avenue, New York. Event web address: www.outstanding50award.com.
Tags: Awards/Awards Shows Dinner Gala Association Economic Development.
EXPAND

## Songwriter's Hall of Fame

PRINT | MAP | TWEET
42nd Annual Dinner and 2011 Induction Ceremony 6:00 pm. Cocktails and awards presentation. New York Marriott Marquis. New York. (914) 579-1000.
Event address: 1535 Broadway, New York.
Tags: Awards/Awards Shows Dinner Arts Performing Arts.
EXPAND

## Voices Against Brain Cancer

PRINT | MAP | TWEET
Sixth Annual Sounding Off for a Cure Concert 6:00 pm. Performances. Hammerstein Ballroom. New York City.
Event address: 311 West 34th Street, New York City.
Tags: Concert Fundraiser Health Cancer.
EXPAND

## Catholic Charities - Archdiocese of New York

PRINT | MAP | TWEET
Third Annual Junior Board Gala Cocktails, hors d'oeuvres, gaming, and entertainment. “Casino Night," theme. Cocktail attire. Chaired by Stephanie Bagley,Timothy Spelman. Co-chaired by Sean Gorman,Christine Keith. Tickets from $125.00. Buy Tickets. Providence. New York. Contact: Kathleen McGowan. [redacted].
Event address: 311 West 57th St., New York. Fax: (212) 755-1526. Event web address: www.catholiccharitiesny.org/get-involved/junior-board/.
Tags: Cocktail party Fundraiser Association Faith Christian.
EXPAND

## Fort Tryon Park Trust

PRINT | TWEET
Sunset on the Hudson 6:30 pm. Cocktails at the New Leaf Café, followed by dinner on the David Rockefeller Linden Terrace. Festive attire. Honoring Bette Midler,New York Restoration Project. Chaired by Edith Kean. Tables from $10,000.00. Fort Tryon Park. Contact: Jennifer Hoppa. [redacted].
Event address: Northern Manhattan,. Event web address: www.forttryonparktrust.org/sunset_on_the_hudson_gala.html.
Tags: Cocktail party Dinner Fundraiser Environmental.
EXPAND

## Make-A-Wish Foundation of Metro NY

PRINT | MAP | TWEET
Annual Gala "An Evening of Wishes" Cocktails, dinner and program. Business Attire. Honoring Michael Delaney,James B. Lee, Jr. Co-chaired by Frank Bisignano,Thomas A. Roberts. Cipriani Wall Street. New York. Contact: Amy Epstein. [redacted].
Event address: 55 Wall St., New York. Event web address: metrony.wish.org.
Tags: Gala Health Cancer Health Pediatrics.
EXPAND

## Persol

PRINT | TWEET
Magnificent Obsessions: 30 Stories of Craftsmanship in Film Exhibition opening. Invitation only. Honoring Milena Canonero,Terry Gilliam,Sir Ben Kingsley. Center 548. New York. Contact: Gina Sevilla. [redacted]
Event address: 548 West 22nd Street, New York.
Tags: Exhibition Opening.
EXPAND

## Wounded Warriors Family Support Initiative

PRINT | TWEET
Special Event 6:30 pm. Cocktails and entertainment, with special performance by The Roots. Speaker(s): Captain Paul Bud Bucha. Intrepid Sea, Air & Space Museum. New York.
Event address: 1 Intrepid Square, Pier 86, 46th St. at 12th Ave., New York. Event web address: woundedwarriorsinitiative.com/event.php#roots.
Tags: Fundraiser Civic.
EXPAND

## Worldwide Orphans Foundation

PRINT | MAP | TWEET
Matt Blesso's Third Annual Birthday Celebration 7:00 pm. Cocktails. Hosted by Dr. Jane Aronson,Amy Poehler. Tickets from $75.00. Private Location.
Event web address: www.wwo.org.
Tags: Cocktail party Fundraiser Child Advocacy.
EXPAND

## Actors Fund

PRINT | MAP | TWEET
Benefit Performance 8:00 pm. "Zarkana, Cirque du Soleil". Tickets from $125.00. Radio City Music Hall. New York. Contact: Stephen Joseph. [redacted].
Event address: 1260 Ave. of the Americas, New York. Event web address: actorsfund.org.
Tags: Benefit Performance Rally/March Arts Performing Arts.
EXPAND

# Friday, June 17, 2011

Sunrise: 5:25 am Sunset 8:27 pm Moon:
High: 79 Low: 62

## Action Against Hunger

PRINT | MAP | TWEET
Spanish Wine Festival 6:30 pm. Culinary and wine tastings. Hosted by PJ Wine. Metropolitan Pavilion. New York. (212) 967-7800.
Event address: 125 West 18th St., New York. Event web address: www.actionagainsthunger.org.
Tags: Tasting Wine Tasting Social Services Food Banks.
EXPAND

## New York Child Learning Institute / Phoenix Center Inc

PRINT | MAP | TWEET

2011 Annual Black Tie Affair & Auction Cocktails, dinner and program. Black tie attire. Invitation only. Hosted by Knights of York. Honoring Dr. Joan Fallon,Bob Hurley, Carol Laurenzano,Jim Watkins,Lauren Thierry Watkins. Chaired by Declan Connolly. Co-chaired by Thomas J. Petersen. Tickets from $275.00. United Nations Delegates Dining Room. New York. Contact: Aimee Demilia Newsham. [redacted].
Event address: United Nations Building, First Ave. at 45th St., New York. Fax: (201) 485-8523. Event web address: www.knightsofyork.org.
Tags: Auction Gala Association Education K-12.
EXPAND

EXHIBIT A

specifically, how do we get businesses to do more in terms of hiring, spend less on redtape, less on bureaucracy, and reduce the regulatory burden in smart ways?

The current administration has said some of the right things but actually moved in the wrong direction. We have seen a sharp increase in the last couple of years in what are deemed to be major economically significant rules. That is defined as regulations that impose a cost on the economy of $100 million or more.

According to the administration's Office of Management and Budget, the current administration has been regulating at a pace of 84 major rules per year. By way of comparison, that is about a 50-percent increase over the regulatory output during the Clinton administration, which had about 56 rules per year, and an increase from the Bush administration as well. So we have seen more regulations and more significant regulations.

I was encouraged to hear President Obama's words when he talked about the Executive order in January, which is entitled "Improving Regulation and Regulatory Review." But now we need to see action. We need to see it from the administration, from individual agencies to provide real regulatory relief for job creators to be able to reduce this drag on the economy.

One commonsense step we can take is to strengthen what is called the Unfunded Mandates Relief Act. It was passed in 1995. It was bipartisan. I was a cosponsor in the House of Representatives. It is an effort to require Federal regulators to evaluate the cost of rules, to look at the benefits and the costs, and to look at less costly alternatives on rules.

The two amendments I would like to offer over the next few days as we consider the legislation before us would improve this Unfunded Mandates Reform Act, and it would reform it in ways that are entirely consistent with the principle President Obama has laid out and committed to in his Executive order on regulatory review.

The first amendment would require agencies specifically to assess potential effects of new regulations on job creation—so focusing in on jobs—and to consider market-based and nongovernmental alternatives to regulation. This would broaden the scope of the Unfunded Mandates Relief Act to require cost-benefit analysis of rules that impose direct or indirect costs of $100 million a year or more. So, again, this is for major rules of $100 million or more. It would also require agencies to adopt the least costly or least burdensome option that achieves whatever policy goals have been set out by Congress. It seems to me it is a commonsense amendment. I hope we will get bipartisan support for it.

The second amendment would extend the Unfunded Mandates Relief Act to so-called independent agencies which today are actually exempt from the cost-benefit rules that govern all other agencies. In 1995, we had this debate and determined at that time we would not extend the legislation to independent agencies. In the interim, independent agencies have been providing more and more rules, have put out more and more regulations, and are having a bigger and bigger impact. An example of an independent agency would be the SEC, the Securities and Exchange Commission, or the CFTC, which is the Commodity Futures Trading Commission. These are agencies that, although independent in the executive branch, are very much involved in putting out major rules and regulations. It is sometimes called the "headless fourth branch" of government because their rules are not reviewed for cost-benefit analysis, even by the OMB, the Office of Management and Budget, in its Office of Information and Regulatory Affairs, so-called OIRA.

We have looked at some GAO data and put together various studies, and it appears to us that there are about 200 regulations that were issued between 1996 until today that would be deemed to have an impact of $100 million or more on the economy but were automatically excluded from the Unfunded Mandates Relief Act because they were deemed to be from independent agencies.

So it is basically closing a loophole and closing this independent agency loophole, which I believe is a sensible reform. It has been endorsed by many people, including, interestingly, the current OIRA Administrator and the President's regulatory czar, Cass Sunstein, who, in a 2002 Law Review article, talked about the fact that this is an area where UMRA ought to be extended because, again, there were so many independent agencies that were putting out regulations impacting job creation in this country.

No regulation, whatever its source, should be imposed on American employers or on State and local governments without serious consideration of the costs, the benefits, and the availability of a least-burdensome alternative. Both these amendments would move us further toward that sensible goal, and I hope the leadership will allow these amendments to be offered. I think they fit well with the underlying legislation. If they are offered, I certainly urge my colleagues on both sides of the aisle to support them.

I yield the floor. I suggest the absence of a quorum.

The PRESIDING OFFICER. The clerk will call.

The bill clerk proceeded to call the roll.

Mr. DURBIN. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

## MORNING BUSINESS

Mr. DURBIN. Mr. President, I ask unanimous consent that Senators be allowed to speak as in morning business for up to 10 minutes each.

The PRESIDING OFFICER. Without objection, it is so ordered.

## TRIBUTE TO LOUIS E. GIVAN

Mr. McCONNELL. Mr. President, I rise today to recognize a distinguished Kentuckian who has worked tirelessly on behalf of our Nation's soldiers, sailors and marines for more than 40 years. Louis E. Givan, a lifelong resident of my hometown of Louisville, has played a vital role in protecting the men and women of our Armed Forces and our country's defense.

Formerly a sailor himself in the U.S. Navy, he has served for the last 11 years as the general manager of Raytheon Missile Systems operations in Louisville. I was saddened to hear of his retirement from that position this coming July 5. He will certainly be missed.

Mr. Givan—or, to those who know him, Ed—was a 1966 graduate of St. Xavier High School in Louisville and in 1970 earned his bachelor of science degree in mechanical engineering from the J.B. Speed School of Engineering at the University of Louisville. In 1968, he began working at the Naval Ordnance Station in Louisville, and he stayed at that post until 1996, in various engineering and supervisory positions.

In 1996 the Naval Ordnance Station transitioned to private ownership, and Ed's leadership was crucial in making that transition a successful one. The facility eventually became part of Raytheon Missile Systems, and Ed was appointed general manager in 2000. As general manager, Ed has led Raytheon Missile Systems in Louisville to great success, success for both the company and for the local community. They design, develop, and produce vital weapons systems for our armed forces, enabling America to have the most formidable military force in the world. Weapons produced at the Louisville facility are used by our forces in all parts of the globe, including in Iraq.

Kentucky is lucky to have benefitted from Ed's dedication, commitment to excellence, and leadership for so many years. I am sure his wife Velma; his sons Eddie, Tony, and Chris; and his grandchildren Benjamin, Nathan, Isaac, Macy and Natalie are all very proud of what Ed has accomplished. I wish him the very best in retirement, and I am sure my colleagues join me in saying that this U.S. Senate thanks Mr. Louis E. "Ed" Givan for his faithful service.

## CRIME VICTIMS' RIGHTS ACT

Mr. KYL. Mr. President, I ask unanimous consent that the following letter be printed in the Record.

There being no objection, the material was ordered to be printed in the Record, as follows:

U.S. SENATE,
*Washington, DC, June 6, 2011.*
Hon. ERIC H. HOLDER, Jr.,
*Attorney General; U.S. Department of Justice, Washington, DC.*

DEAR ATTORNEY GENERAL HOLDER: I am writing about the Justice Department's implementation of the Crime Victims' Rights Act—an act that I co-sponsored in 2004. These questions relate to an Office of Legal Counsel ("OLC") Opinion made public on May 20, 2011 and more broadly to concerns I have heard from crime victims' advocates that the Department has been thwarting effective implementation of the Act by failing to extend the Act to the investigative phases of criminal cases and by preventing effective appellate enforcement of victims' rights. I am writing to ask you to answer these questions and explain the Department's actions in these areas.

GOVERNMENT PROTECTION OF VICTIMS' RIGHTS DURING INVESTIGATION OF A CRIME

When Congress enacted the CVRA, it intended to protect crime victims throughout the criminal justice process—from the investigative phases to the final conclusion of a case. Congress could not have been clearer in its direction that using "best efforts" to enforce the CVRA was an obligation of "[o]fficers and employees of the Department of Justice and other departments and agencies of the United States engaged in the *detection, investigation*, or prosecution of crime . . . ." 18 U.S.C. §3771(c)(1) (emphasis added). Congress also permitted crime victims to assert their rights either in the court in which formal charges had already been filed "or, *if no prosecution is underway*, in the district court in the district in which the crime occurred." 18 U.S.C. §3771(d)(3) (emphasis added).

Despite Congress' clear intention to extend rights to crime victims throughout the process, the Justice Department is reading the CVRA much more narrowly. In the recent OLC opinion, for example, the Department takes the position that "the CVRA is best read as providing that the rights identified in section 3771(a) are guaranteed from the time that criminal proceedings are initiated (by complaint, information, or indictment) and cease to be available if all charges are dismissed either voluntarily or on the merits (or if the Government declines to bring formal charges after the filing of a complaint)." The Availability of Crime Victims' Rights Under the Crime Victims' Rights Act of 2004, Memorandum from John E. Bies (Dec. 17, 2010, publicly released May 20, 2011) (hereinafter "OLC Opinion"). Indeed, in that same opinion, I am surprised to see the Department citing a snippet from my floor remarks during the passage of the CVRA for the proposition that crime victims can confer with prosecutors only after the formal filing of charges. See id. at 9 (citing 150 Cong. Rec. S4260, S4268 (Apr. 22, 2004) (statement of Sen. Kyl).

I did want to express my surprise that your prosecutors are so clearly quoting my remarks out of context. Here is the full passage of my remarks, which were part of a colloquy with my co-sponsor on the CVRA, Senator Feinstein:

> Senator Feinstein: Section . . . (a)(5) provides a right to confer with the attorney for the Government in the case. *This right is intended to be expansive*. For example, the victim has the right to confer with the Government concerning any critical stage or disposition of the case. *The right, however, is not limited to these examples*. I ask the Senator if he concurs in this intent.
>
> Senator Kyl: Yes. The intent of this section is just as the Senator says. This right to confer does not give the crime victim any right to direct the prosecution. Prosecutors should consider it part of their profession to be available to consult with crime victims about concerns the victims may have which are pertinent to the case, case proceedings or dispositions. Under this provision, *victims are able to confer with the Government's attorney about proceedings after charging*.

150 Cong. Rec. S4260, S4268 (Apr. 22, 2004) (statements of Sens. Feinstein & Kyl) (emphases added). Read in context, it is obvious that the main point of my remarks was that a victim's right to confer was "intended to be expansive." Senator Feinstein and I then gave various examples of situations in which victims could confer with prosecutors, with the note that the right to confer was "not limited to these examples." It is therefore troubling to me that in this opinion the Justice Department is quoting only a limited portion of my remarks and wrenching them out of context to suggest that I think that crime victims do not have any right to confer (or to be treated with fairness) until after charging.

In giving an example that the victims would have such rights after charging, I was not suggesting that they had no such right earlier in the process. Elsewhere in my remarks I made clear that crime victims had rights under the CVRA even before an indictment is filed. For example, in the passage quoted above, I made clear that crime victims had a right to consult about both "the case" and "case proceedings"—i.e., both about how the case was being handled before being filed in court and then later how the case was being handled in court "proceedings." As another example, Senator Feinstein and I explained that we had drafted the CVRA to extend a right to victims to attend only "public" proceedings, because otherwise the rights would extend to grand jury proceedings. See, e.g., 150 Cong. Rec. S4260, S4268 (Apr. 22, 2004) (statements of Sens. Feinstein & Kyl). Of course, no such limitation would have been necessary under the CVRA if CVRA rights attach (as the Department seems to think) only after the filing of a grand jury indictment.

Courts have already rejected the Justice Department's position that the CVRA applies only after an indictment is filed. For example, in *In re Dean*, 527 F.3d 391 (5th Cir. 2008), the Department took the position that crime victims had no right to confer with prosecutors until after the Department had reached and signed a plea agreement with a corporation (BP Products North America) whose illegal actions had resulted in the deaths of fifteen workers in an oil refinery explosion. Of course, this position meant that the victims could have no role in shaping any plea deal that the Department reached. In rejecting the Department's position, the Fifth Circuit held that "the government should have fashioned a reasonable way to inform the victims of the likelihood of criminal charges and to ascertain the victims' views on the possible details of a plea bargain." Id. at 394.

In spite of this binding decision from the Fifth Circuit, crime victims' advocates have reported to me that the Justice Department is still proceeding in the Fifth Circuit and elsewhere on the assumption that it has no obligations to treat victims fairly or to confer with them until after charges are formally filed. Given the Fifth Circuit's Dean decision, this position appears to place the Department in violation of a binding court ruling that extends rights to thousands of crime victims in Louisiana, Mississippi, and Texas. And more generally, the Department's position simply has no grounding in the clear language of the CVRA.

My first question: What is the Justice Department doing to extend to victims their right to fair treatment and their right to confer with prosecutors when the Justice Department is negotiating pre-indictment plea agreements and non-prosecution agreements with defense attorneys, including negotiations within the Fifth Circuit?

CRIME VICTIMS' RIGHT TO APPELLATE PROTECTION

Protection of crime victims' rights in appellate courts is an important part of the CVRA. As you know, when Congress passed the CVRA, the federal courts of appeals had recognized that crime victims could take ordinary appeals to protect their rights. See, e.g., *Doe v. United States*, 666 F.2d 43, 46 (4th Cir. 1981) (rape victim allowed to appeal district court's adverse "rape shield statute" ruling); *United States* v. *Kones*, 77 F.3d 66 (3rd Cir. 1996) (victim allowed to appeal adverse restitution decision). Congress sought to leave these protections in place, while expanding them to ensure that crime victims could obtain quick vindication of their rights in appellate courts by providing—in §3771(d)(3)—that "[i]f the district court denies the relief sought, the [victim] may petition the court of appeals for a writ of mandamus." 18 U.S.C. §3771(d)(3). Ordinarily, whether mandamus relief should issue is discretionary. The plain language of the CVRA, however, specifically and clearly overruled such discretionary mandamus standards by directing that "[t]he court of appeals *shall take up and decide such application forthwith* . . . ." 18 U.S.C. §3771(d)(3) (emphasis added). As I explained when the Senate considered the CVRA:

> [W]hile mandamus is generally discretionary, this provision [18 U.S.C. §3771(d)(3)] means that courts *must* review these cases. Appellate review of denials of victims' rights is just as important as the initial assertion of a victim's right. This provision ensures review and encourages courts to *broadly defend* the victims' rights.

150 CONG. REC. S4270 (Apr. 22, 2004) (statement of Sen. Kyl) (emphases added). Similarly, the CVRA's co-sponsor with me, Senator Feinstein, stated that the Act would create "a new use of a very old procedure, the writ of mandamus. This provision will establish a procedure where a crime victim can, in essence, immediately *appeal* a denial of their rights by a trial court to the court of appeals." 150 CONG. REC. S4262 (statement of Sen. Feinstein) (emphases added); see also id. (statement of Sen. Kyl) (crime victims must "be able to have . . . the appellate courts take the appeal and order relief). In short, the legislative history shows that §3771(d)(3) was intended to allow crime victims to take accelerated appeals from district court decisions denying their rights and have their appeals reviewed under ordinary standards of appellate review.

In spite of that unequivocal legislative history, the Justice Department has in past cases asserted a contrary position. In *In re Antrobus*, 519 F.3d 1123 (10th Cir. 2008), Ken and Sue Antrobus sought to obtain appellate review of a ruling by a trial court that they could not deliver a victim impact statement at the sentencing of the man who sold the murder weapon used to kill their daughter. The Tenth Circuit ruled against them on the basis that the Antrobuses were not entitled to regular appellate review, but only discretionary mandamus review. See id. at 1124–25. The Tenth Circuit did not consider the legislative history in reaching this conclusion, leading the Antrobuses to file petitions for rehearing and rehearing en banc—petitions that recounted this legislative history. In response, the Justice Department asked the Tenth Circuit to deny the victims' petitions. Remarkably, the Justice Department told the Tenth Circuit that it could ignore the legislative history because the CVRA "is unambiguous." Response of the United States, *In re Antrobus*, No. 08–4002, at 12 n.7 (10th Cir. Feb. 12, 2008).

At the time that the Justice Department filed this brief, no Court of Appeals agreed with the Tenth Circuit. At the time, three other Circuits had all issued unanimous rulings that crime victims were entitled to regular appellate review. See *In re W.R. Huff Asset Mgmt. Co.*, 409 F.3d 555, 562 (2d Cir. 2005); *Kenna v. US. Dist. Ct. for the Cent. Dist. of Ca.*, 435 F.3d 1011, 1017 (9th Cir. 2006); *In re Walsh*, 229 Fed.Appx. 58, at 60 (3rd Cir. 2007).

My next question for you is, given that the Justice Department has an obligation to use its "best efforts," 18 U.S.C. §3771(c)(1), to afford crime victims their rights, how could the Department argue in Antrobus (and later cases) that the CVRA "unambiguously" denied crime victims regular appellate protections of their rights when three circuits had reached the opposite conclusion?

### GOVERNMENT'S RIGHT TO ASSERT ERROR DENIAL OF VICTIMS' RIGHTS

To further bolster protection of crime victims' rights, Congress also included an additional provision in the CVRA—§3771(d)(4)—allowing the Justice Department to obtain review of crime victims' rights issues in appeals filed by defendants: "In any appeal in a criminal case, the Government may assert as error the district court's denial of any crime victim's right in the proceeding to which the appeal relates." 18 U.S.C. §3771(d)(4). The intent underlying this provision was to supplement the crime victims' appeal provision found in §3771(d)(3) by permitting the Department to also help develop a body of case law expanding crime victims' rights in the many defense appeals that are filed. It was not intended to in any way narrow crime victims' rights to seek relief under §3771(d)(3). Nor was it intended to bar crime victims from asserting other remedies. For instance, it was not intended to block crime victims from taking an ordinary appeal from an adverse decision affecting their rights (such as a decision denying restitution) under 28 U.S.C. §1291. Crime victims had been allowed to take such appeals in various circuits even before the passage of the CVRA. See, e.g., *United States v. Kones*, 77 F.3d 66 (3rd Cir. 1996) (crime victim allowed to appeal restitution ruling); *United States v. Perry*, 360 F.3d 519 (6th Cir. 2004) (crime victims allowed to appeal restitution lien issue); *Doe v. United States*, 666 F.2d 43, 46 (4th Cir. 1981) (crime victim allowed to appeal rape shield ruling).

As I explained at the time the CVRA was under consideration, this provision supplemented those pre-existing decisions by "allow[ing] the Government to assert a victim's right on appeal even when it is the defendant who seeks appeal of his or her conviction. This ensures that victims' rights are protected throughout the criminal justice process and that they do not fall by the wayside during what can often be an extended appeal that the victim is not a party to." 150 CONG. REC. S4270 (Apr. 22, 2004) (statement of Sen. Kyl).

I have heard from crime victims' advocates that the Department has not been actively enforcing this provision. Indeed, these advocates tell me that they are unaware of even a single case where the Department has used this supplemental remedy. My final question: Is it true that the Department has never used this provision in even a single case in the more than six years since the CVRA was enacted?

Sincerely,

JON KYL,
*U.S. Senator.*

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## HONORING OUR ARMED FORCES

### SERGEANT VORASACK T. XAYSANA

Mr. BENNET. Mr. President, it is with a heavy heart that I rise today to honor the life and heroic service of SGT Vorasack T. Xaysana. Sergeant Xaysana, assigned to the Headquarters and Headquarters Company, 2nd Battalion, based in Fort Hood, TX, died on April 10, 2011. Sergeant Xaysana was serving in support of Operation New Dawn in Kirkuk, Iraq. He was 30 years old.

A native of Westminster, CO, Sergeant Xaysana enlisted in the Army in 2005. During over 6 years of service, he distinguished himself through his courage and dedication to duty. Sergeant Xaysana's exemplary service quickly won the recognition of his commanding officers. He earned, among other decorations, the Iraq Campaign Medal, the Global War on Terrorism Service Medal, and the Army Good Conduct Medal.

Sergeant Xaysana worked on the front lines of battle, serving in the most dangerous areas of Iraq. Mark Twain once said, "The fear of death follows from the fear of life. A man who lives fully is prepared to die at any time." Sergeant Xaysana's service was in keeping with this sentiment—by selflessly putting country first, he lived life to the fullest. He lived with a sense of the highest honorable purpose.

At substantial personal risk, he braved the chaos of combat zones throughout Iraq. Though his fate on the battlefield was uncertain, he pushed forward, protecting America's citizens, her safety, and the freedoms we hold dear. For his service and the lives he touched, Sergeant Xaysana will forever be remembered as one of our country's bravest.

To Sergeant Xaysana's parents, Thong Chanh and Manithip, and to his entire family, I cannot imagine the sorrow you must be feeling. I hope that, in time, the pain of your loss will be eased by your pride in Vorasack's service and by your knowledge that his country will never forget him. We are humbled by his service and his sacrifice.

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## GRAZING IMPROVEMENT ACT

Mr. BARRASSO. Mr. President, I rise today to submit for the RECORD an article written by Karen Budd-Falen and published May 28, 2011, in the Wyoming Livestock Journal. The article's title is "Leveling the Playing Field: Support for the Grazing Improvement Act of 2011."

The title of the article is instructive. Anyone living and working in rural communities knows the playing field is not level. The National Environmental Policy Act has become the preferred tool to delay and litigate grazing permit renewals for American ranchers.

Livestock grazing on public lands has a strong tradition in Wyoming and all Western States. Ranchers are proud stewards of the land, yet the permitting process to renew their permits is severely backlogged due to litigation aimed at eliminating livestock from public land.

During times of high unemployment and increasing food prices, we need to be encouraging jobs in rural economies. We need to be fostering an environment to raise more high quality, safe, American beef and lamb; not litigating less.

That is why I introduced the Grazing Improvement Act of 2011. This legislation will provide the certainty and stability public grazing permit holders desperately need in order to continue supporting rural jobs, providing healthy food, and maintaining open spaces for recreation and wildlife.

It is time to help level the playing field for hard working ranching families across the West. Their livelihood should not be held hostage by litigation and anti-grazing special interest groups. I thank my colleagues, Senators ENZI, CRAPO, HATCH, HELLER, RISCH, and THUNE, in supporting ranching families and this legislation.

Mr. President, I ask unanimous consent to have printed in the RECORD the article to which I referred.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From the Wyoming Livestock Roundup, May 28, 2011]

### LEVELING THE PLAYING FIELD: SUPPORT FOR THE GRAZING IMPROVEMENT ACT OF 2011

(By Karen Budd-Falen)

If jobs and the economy are the number one concern for America, why are rural communities and ranchers under attack by radical environmental groups and overzealous federal regulators?

America depends upon the hundreds of products that livestock provide, yet radical groups and oppressive regulations make it almost impossible for ranchers to stay in business. Opposition to these jobs comes in the form of litigation by radical environmental groups to eliminate grazing on public lands, radical environmental group pressure to force "voluntary" grazing permit buyouts from "willing sellers," and holding permittees hostage to the court deference given to regulatory "experts." The playing field is not level and the rancher is on the losing side. The Grazing Improvement Act of 2011 will level the playing field. I urge your support.

The Grazing Improvement Act of 2011 does the following:

1. Term of Grazing Leases and Permits. Both BLM and Forest Service term grazing permits are for a 10-year term. This bill extends that term to 20 years. This extension does not affect either the BLM's or Forest Service's ability to make interim management decisions based upon resource or other needs, nor does it impact the preference right of renewal for term grazing permits or leases.

2. Renewal, Transfer and Reissuance of Grazing Leases and Permits. This section codifies the various "appropriation riders" for the BLM and Forest Service requiring that permits being reissued, renewed or transferred continue to follow the existing terms and conditions until the paperwork is complete. Thus, the rancher is not held hostage to the ability of the agency to get its

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## Taking the Plunge

Wednesday, August 03, 2011

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"New and noteworthy" is a term that gets tossed around a lot in the travel world, but we're taking it seriously to heart this week at Jetsetter. The "new" is the Dream Downtown NYC, a hip, reinvented space at the crossroads of Chelsea and the Meatpacking District (MePa, if you really must). The "noteworthy" is a little thing called skydiving at Mount Everest. Whether it's lounging poolside in New York or jumping out of a plane in full view of the world's highest mountain, there's a lot going on this week. Read on for all the details, including properties in Paris, San Francisco, Vegas, Miami and more. (Image: Skydive Mount Everest - on sale Sat, Aug 6.)

# Hip Manhattan Newcomer... with Real Sand

*Dream Downtown - NYC*

**The new Dream Downtown** has the best of both worlds. Housed in a 1960s building designed by Albert C. Ledner, it's situated at the crux of Manhattan's art, design and nightlife scenes between Chelsea and the Meatpacking District. With a hot rooftop bar, a Miami-meets-Ibiza pool (with lounge chairs set in real sand) and modern rooms with classic Downtown views, you can have your party and a good night's sleep, too.

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# Romance by the Arc de Triomphe

*Mon Hotel - Paris*

**Just a short walk** from the Arc de Triomphe, Mon Hotel sits on a quiet street off the bustling boulevards. Designer Aurélia Santoni fashioned this intimate boutique property with eccentricity and flair; lampshades from Dutch design firm Moooi hang above Utrecht armchairs in the lobby. Above all, the style of the guestrooms and the service stress comfort; Mon feels like your personal Paris *pied-à-terre*.

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# Beach, Spa, Repeat in Crete

*Candia Maris Resort - Crete*

**Just outside Heraklion, Crete's** capital city, the Candia Maris is a sprawling beachside resort spanning nearly 10 acres. Although the property lacks the charm of smaller hotels, it more than compensates with its amenities, which include tennis courts and seven pools. The highlight is the vast thalassotherapy spa, which underwent a multimillion-dollar renovation in 2008.

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# Sleep in a Palace in Portugal

*Vidago Palace - Portugal*

**In the mountainous north** of the country, just over an hour from Porto, the recently opened Vidago Palace has, in one fell swoop, raised the bar for luxury getaways in Portugal. As far removed from the sun and sand of the touristy Algarve as you can get, this is a destination for the discerning traveler and the lover of fine things, whether they be cigars, hand-painted silk wallpaper, the country's best spa or a championship golf course.

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## *Now Live*

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# The Budapest Bauhaus

*Mamaison Hotel Budapest*

**Leisure and business travelers** feel like locals at this historic boutique hotel set among the embassies and grand residences of Budapest's tree-lined Andrassy Avenue. Built in 1937 and completely renovated three years ago, the hotel is home to a hip-again Bauhaus style in the comfortable rooms and gourmet dining at on-site Baraka Restaurant. For exploring, you can't beat the location: It's a short walk to restaurants, parks, museums and the city's famed thermal baths.

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# A Study in Swiss Chic

*Cervo - Switzerland*

**The Cervo may have** a Swiss address, but there's nothing neutral about this boutique hotel's atmosphere and hospitality. In Zermatt, a legendary ski village where the Matterhorn ("Horu" to locals) dominates the landscape (and the activities, yearround) the hotel has the requisite majestic views. But modern interiors and quirky accents like antlers and cheerful checkerboard patterns make the Cervo a study in Swiss chic.

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# Living the Fantasy in Las Vegas

*The Palms - Las Vegas*

**The Palms Las Vegas** is all about classic hedonism: nightlife, gambling, pool parties and sweet guestrooms for more after-hours fun. Within the Palms enclave, the Palms Fantasy Tower flaunts a cool, contemporary feel to suit the tastes of its young and stylish party-hard crowds, perfect for hosting the true "what happens in Vegas stays in Vegas" experience.

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# A Classic San Francisco Stay

*Omni San Francisco Hotel*

**In a beautifully renovated** redbrick-and-stone former bank building, the Omni San Francisco has an elegant ambiance and draws inspiration from Renaissance Florence. The spacious rooms have carved-mahogany furniture and nine-foot-high crown molded ceilings, while sparkling crystal chandeliers, mahogany paneling and an iron-and-marble staircase define the lobby. Best of all, it's within walking distance from some of the city's top attractions like Union Square, North Beach and Chinatown.

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# Hilltop Romance on Phuket

*The Pavilions - Phuket*

**These hilltop retreats are** some of Phuket's most romantic crash pads thanks to sublime panoramic Andaman Sea views and the island's most discreet staff. All villas include swimmable pools and roomy decks for sun and shade. The 360 bar attracts the island's best dressed inhabitants who flock here at sundown for the calm view then stay sipping colorful cocktails late into the warm night.

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# Beachfront Zen Near Cancun

*La Amada Hotel - Playa Mujeres*

**Looking more like some** millionaire's Miami crib than a traditional Cancún resort, the all white, Zen-minimalist La Amada Hotel exudes a down-to-earth sexiness and an understated elegance - all creamy sofas, gauzy curtains and personal Jacuzzis. Just 20 minutes north of central Cancún in Playa Mujeres, La Amada is on a long, pristine and very secluded beach.

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## *Now Live*

# Stately Style in the Heart of Washington D.C.

*The Madison - D.C.*

**Named for James Madison,** the fourth president and "father of the Constitution," this stately hotel has traditional style and refined service - plus, a location that puts many of Washington's must-see museums and monuments along the Mall within walking distance. Opened in 1963, the 353-room hotel has hosted the Dalai Lama, the occasional celebrity and every U.S. president since John F. Kennedy except Barack Obama. But don't worry - you can stop by the White House, which is just five blocks away.

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# Where Esther Williams Meets Chanel

## *The Raleigh - South Beach*

**The Raleigh is different** from most properties in South Beach, with a vibe that's more Deco cool than decked out to the nines. A stay here feels a bit like a trip to the 1940s - dressed in whites one minute, casual the next. It's all about lounging in style by the pool, which has hosted everything from Esther Williams swimming routines to Chanel's cruise collection show. The Raleigh itself is a lot like that pool: cool, pretty and a place to be seen.

Click here to preview sale

*Starting Thursday 4/8 at 8pm BST*

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# The Classic SoCal Beach Escape

*Shorebreak - California*

**Shorebreak, a 157-room hotel** on Huntington Beach, lives up to the SoCal lifestyle celebrated on breezy beach postcards. From your private balcony, you'll gaze over a classic California coast pier, with the Pacific stretching out behind it. Surf by day, then chow down on room-service orecchiette pasta with seared diver scallops before heading out to a beachside bonfire.

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*Starting Thursday 4/8 at 8pm BST*

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# Attention Adrenaline Junkies

*Skydive Mount Everest*

**As any adrenaline junkie** knows, skydiving is the ultimate thrill: Those few seconds during free fall are as close to flying as we humans will probably ever get. Now imagine hurling yourself out of a plane at 29,500 feet - in full view of Mount Everest. To call it a rush would be an understatement, but tour company Everest Skydive makes this once-in-a-lifetime experience possible. During this 10-night/11-day tour, beginning in Kathmandu, you'll get your bearings on the ground with some sightseeing and then hike up to the drop site, where the true adventure begins. And with all the details - accommodations, gear, professional instruction - taken care of, skydivers can simply enjoy the (truly unforgettable) moment.

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*Starting Saturday 6/8 at 5pm BST*

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# The South African Safari Goes Posh

*Morukuru - South Africa*

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**In the heart of** the Madikwe Game Reserve, Morukuru Family's trio of boutique-chic, exclusive lodging options are the perfect pick for small groups seeking an intimate, totally tailor-made bush adventure. Half wild, half unabashedly posh, the getaway is less than a four-hour drive - or an even shorter charter plane ride - from Johannesburg. Choose between the Owners House, the Lodge or the Farm, and the the only people you'll share sundowners and lion cub photos ops with will be the pack you arrived with. Family-friendly and super flexible, this is a true South African safari vacation, complete with personal cooks, butlers and animal trackers at your service.

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*Starting Saturday 6/8 at 5pm BST*

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## *Sales this week*

*Starting Today at 8pm BST*
Mamaison Hotel Budapest
Sofitel Montreal Golden Mile
Cervo - Switzerland

*Starting Thursday at 8pm BST*
The Shores - Daytona Beach
The Raleigh - South Beach
Shorebreak - California

*Starting Friday at 5pm BST*
Veranda House - Nantucket

*Starting Friday at 8pm BST*
Iron Horse Hotel - Milwaukee
Hidden Pond - Maine
Kedron Valley Inn - Vermont

*Starting Saturday at 5pm BST*
A Culinary Retreat in Mexico
Morukuru - South Africa
Skydive Mount Everest

*Starting Sunday at 5pm BST*
The Alexandra - Turks & Caicos

*Starting Sunday at 8pm BST*
Las Alamandas - Mexico
Arenas del Mar Beachfront
Blue Waters - Antigua
Nayara Hotel, Spa & Gardens

*Starting Monday at 8pm BST*
Hotel Matilda - San Miguel
Santa Teresa - Rio De Janeiro

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HED: To Venice With Love, Peggy Siegal

DEK: Back to northern Italy to take in the arts and architecture—and of course, film at the 68th annual Venice Film Festival.

By: Peggy Siegal

Tuesday, Aug. 30, 2010

Art collector, polo player and film producer Peter Brant gives me a ride to the 68th Venice Film Festival to mingle with Hollywood glitterati from around the world. Venice, the thousand-year-old city looks like a movie set floating on the water that has been the backdrop for films from Casanova to The Tourist. This year, 65 films will have world premieres. Among the jury are two American directors: chairman Darren Aronosfky, Todd Haynes and one English musician, David Byrne.

Wednesday, Aug. 31, 2011

I check into the paparazzi-proof Cipriani's on the private Giudecca Island for a week—a safe haven for George Clooney, Al Pacino and Gwyneth Paltrow. Cipriani's is impossible to book I have been told for months that Friday night is sold out.

In Italy, George Clooney, aka “King George,” is presiding over his Ides of March press conference at the Palazzo del Casino on Lido. He rules himself out of a future role as United States President, citing Barack Obama's troubles are reason enough to avoid the job. How many countries can George rule?

Clooney currently serves as producer, director, co-writer and actor. He seriously tries to explain why his film now reflects the present cynical political mood of the country. The press cannot help asking silly questions and setting George up for one wisecrack after another.

Also on the panel are producer Grant Heslov and Beau Willimon who wrote the play the film is based on, Farragut North. Paul Giamatti, Philip Seymour Hoffman, Marisa Tomei and Evan Rachel Wood are confident they are sensational in this Machiavellian, political thriller and try not to joke around. George's infectious humor prevails and the conference is reduced to a Friars roast.

Ryan Gosling, last seen in Blue Valentine, who is filming in the states, is finally this year’s breakout star stealing Clooney’s film.

At the premiere on the Lido at the Palazzo del Cinema, Marco Muller, artistic director of the festival, greets 50-year-old heartthrob Clooney with 45-year-old bombshell Cindy Crawford dressed in long bright red Roberto Cavalli gown exactly matching the red carpet. 23-year-old Evan Rachel Wood steps out in a white Alessandra Rich gown, slit all the way up the middle, exposing her endless legs.

Royal George later holds court with his cast back at Cipriani's. Attempting to handle the sweltering humidity, ties are loosened, drinks are poured while Evan Rachel Wood takes the microphone with a back-up jazz quartet belting out Janis Joplin songs. She transforms herself into a gyrating, pulsating soul sister as Robin Wright, Christoph Waltz, Diane Kruger and Sir Norman Foster watch in awe. Remember, Evan sang in Julie Taymor's Across the Universe.

By 2 a.m. Ms. Wood is drenched and jumps into Cipriani's Olympic-size pool to cool off in her borrowed gown. She has the dress cleaned the next day and sends it back good as new.

Thursday, Sept. 1, 2011

George heads for the 38th Telluride Film Festival to attend his tribute program introduced by Ken Burns. Fox Searchlight premieres Alexander Payne's Hawaiian-set The Descendants. George stars as a father of two who learns about his wife's infidelity. You have to love the role-reversal casting. Nobody cheats on George—which is why his performance is so poignant.

Clooney and Payne met at the Toronto Film Festival two years ago and were shooting in Oahu months later. Payne edited the film at Clooney's Italian villa on Lake Como, where the entire cast, including Charlie Rose who has a cameo playing Charlie Rose, end up for a holiday reunion the weekend before this year's festival.

Activities include George and Grant challenging Charlie and Marisa Tomei to a strenuous game of hoops on the private basketball court. Late-night partying ends with Mr. Rose skinny-dipping in Lake Como—a tradition started by that wild and crazy guy Walter Cronkite years ago.

The Weinstein Company screens in Venice and Telluride their silent film The Artist, directed by Michel Hazanavicius and starring French movie idol Jean Dujardin. The film was premiered in May at the Cannes Film festival.

Early Oscar buzz for films and male lead performances could be The Descendants, The Artist and Shame. This momentum has to sustain itself on the long road to Eddie Murphy's opening dialogue on Oscar night in February.

Next to Evan Rachel Wood's favorite pool, I am lunching and munching on pasta and pizza with Valentino, Giancarlo Giammetti, Bruce Hoeksema, Charlene de Ganay and Carlos Souza aka "the family."

Paul Giamatti, whose family changed their spelling, tells me he is actually related to Valentino's business partner Giancarlo Giammetti, which is a visual stretch of the imagination.

Valentino has brought his yacht T.M. Blue One carrying six pugs to Venice to attend Madonna's premiere of W.E., the compelling romance between King Edward VIII and the twice-divorced Wallis Simpson.

Madonna has shown an early cut on DVD to Valentino in his grand Paris apartment last spring. Valentino loves the film and says Andrea Riseborough, who was trained at the Royal Academy of Dramatic Arts, is as compelling as Wallis.

Similarities between Madonna and Wallis: Americans hounded by the press, moved to London to marry Englishman, were fashion icons always re-inventing themselves and were possessed with a faint sense of being misunderstood.

After the premiere, Frida Giannini, creative director of Gucci, and Harvey Weinstein host a slightly decadent, secret, after-party on the outside terrace at the Bauer Palazzo. The 53-year old Material Girl brings Brahim Zaibat—her 24-year old break-dancing boyfriend—sips bellinis and sings "Like a Virgin" until 4:30 a.m. to Valentino and Guy Oseary and her cast: Andrea Riseborough, Abbie Cornish, James D'arcy and Oscar Issac, who is also in the Cannes-winner Drive.

Simultaneously, Sony Picture Classic's Michael Barker and Tom Bernard premiere Roman Polanski's Carnage, based on Yasmina Reza's French play God of Carnage, which played to packed houses in Paris, London, New York and Los Angeles.

Curvaceous Kate Winslet, appearing in three films at the festival (Carnage, Mildred Pierce and Contagion), makes her red carpet debut—whipping out her mobile phone and photographing the fans. Fresh from fighting fires and saving lives on Richard Branson's Necker Island, she is joined by bearded co-stars Christoph Waltz and John C. Reilly.

Polanski is in Gstaad. He remains a wanted man in the U.S., and although he avoided an extradition charge last year, he still risks arrest in some parts of Europe. Carnage, filmed in "real time" is a 79-minute actor's showcase set in one room in a Brooklyn apartment shot entirely in Paris.

Mid September, two years after Polanski was arrested en route to the very same Zurich Film Festival, he will return to receive a lifetime achievement award.

At the Carnage dinner Kate talks about portraying a neurotic wife and mother who gets drunk at a civilized sit-down and projectile vomits between two couples discussing their sons schoolyard fight. Kate tells me the vomit was actually squashed banana, oatmeal and molasses that Roman would lick between takes for comic relief.

Mildred Pierce's HBO gang, including Kary Antholis, director Todd Haynes and co-stars Guy Pearce and Evan Rachel Wood are at Kate's table digesting this information.

Kate and Guy later win Emmy's.

Friday, Sept. 2, 2011

Today is the day Cipriani's is over-booked and they are hell bent on tossing me into the canal. No queen-size bed, nor cot, nor couch materializes. Peter Brant is renting half of the Bauer Palladio next door because even he could not get into my oasis with all of his kids. The bed Peter promised me for tonight has been quietly given away to Owen Wilson, who surprisingly arrives on Larry Gagosian's plane this morning. Peter heroically rescues me by finding a suite in his hotel with double-the-height ceilings for a gazillion Euros.

With the noon toss-out and luggage left in Cipriani's lobby, I race to the press screening of Sony Pictures Classics and Canadian David Cronenberg's highly anticipated A Dangerous Method, produced by Jeremy Thomas.

The film, set on the eve of World War I, is about Sigmund Freud and Carl Jung and their patient Sabina Spielrein, the Russian Jewess who for years remained uncredited for her influence on the development of modern psychology.

The cast features Michael Fassbender as Jung with Keira Knightley (queen of the costume dramas) as Spielrein. Yes, they are fully dressed in their famous sexually charged spanking scenes. This is just the warm up to Fassbender's raw and disturbing sexual romp through lower Manhattan on Sunday night in Shame, Jeremy Thomas's other film. Viggo Mortensen portrays Freud, Vincent Cassel is Austrian psychoanalyst Otto Gross and newcomer Sarah Gadon is Jung's wife.

At the press conference the cast jokes about drawing from their own madness as research and inspiration. I, on the other hand, am in a panic speeding back to Cipriani's to wheel my suitcases around the corner to the Bauer Palladio. Looking lost, dejected and pathetically disheveled, I thank God no one sees my fall from grace.

I eventually realize I am missing a pair of small gold and diamond earrings. Oddly, the same thing happened to me last year during a room change. I chalk this up as the price of foolishly traveling with real jewelry.

At the premiere of A Dangerous Method, I am stressed because I have no ticket, having given my pair to Peter Brant and bed-robber Owen Wilson. Michael Barker and Tom Bernard escort me on the red carpet and Marco Muller himself walks me in.

Having seen A Dangerous Method this morning, I slip out and head to the first Gucci for Woman Award in Cinema dinner hosted by Frida Giannini in Cipriani's rustic barns previously ancient granaries, now donning elegant white Murano glass chandeliers.

This new award recognizes outstanding female filmmakers. The jury includes Robin Wright (who heads to Toronto next week to the premiere of Bennett Miller's Moneyball) and James Franco, also Toronto bound with Sal about Sal Mineo, and Valeria Golino, whom I met on Rain Man.

Madonna asks for "a drum roll, please," as she announces winner Jessica Chastain for Tree of Life . . . but it might as well be for the 11 films Chastain has made since being discovered by Al Pacino four years ago for Wilde Salome. Jessica is presently in The Help, The Dept, Take Shelter and Texas Killing Fields. She is also Toronto bound with Ralph Fiennes’ Coriolanus. This Julliard graduate is following in footsteps of the iconic Meryl Streep.

Francois-Henri Pinault, chairman of Gucci's parent company PRP, is headed to China to support their medical and educational foundations. Pinault’s wife Salma Hayek, wearing a Gucci gown embellished with crystals and feathers, discusses Oliver Stone's Savages, the film about Mexican drug lords that she is currently filming in Los Angeles.

Suddenly a cake with sparklers appears for Salma's 45th—and Madonna encourages us to belt out "Happy Birthday. Singing along is Ginevra Elkann, CAA's Hylda Queally, manager Jason Weinberg and the Brant boys, 18-year-old Petey and 15-year-old Harry.

Across the canal Luca Dini, editor of Vanity Fair Italy is hosting a dinner for David Cronenberg at the pink, Gothic, fifteenth-century Palazzo Pisani Moretta with original period furnishings. An official guidebook says, "can rent out for sumptuous receptions and unforgettable parties." They are not kidding. Lit exclusively by candles mounted on hundreds of antique Murano glass chandeliers, the palace has no electricity or air conditioning. Venice is in the middle of a heat wave and at midnight it still feels like a sauna. Add 300 film patrons frantically fanning themselves with gifted fans, eating hot risotto and ravioli, and you have the hottest party I've ever been to. Literally. Keira, in her long-sleeved, gold lace Valentino is dabbing her body with ice water from the table.

Ironically a party for Contagion the following night had a dozen new, huge, white plastic air conditioners humming around the ballroom for the film about a global, pandemic plague.

Saturday, Sept. 3, 2011

With a noon checkout and a 3 p.m. check-in at Cipriani's, I am beside myself with packing fatigue and blowing $500 dollars a day on boat rides.

I am watching Steven Soderbergh's sleek medical thriller Contagion aka Sars: The Movie with the A-list Hollywood cast including Matt Damon, Gwyneth Paltrow, Laurence Fishburne, Jennifer Ehle, Jude Law and Marion Cotillard. Michael Shamberg produces and Scott Z. Burns is the screenwriter. The film imagines a virus killing millions as scientists try desperately to find an antidote. It starts with peaky-looking Paltrow in a casino touching everything, chatting on a cell phone to a lover, coming home to her husband and expiring on the kitchen floor as she foams at the mouth. Gwyneth tells us this is accomplished by biting down on an alka-seltzer.

Next I find the documentary Diana Vreeland: The Eye Has to Travel hidden in a tiny screening room in a basement. Lisa Immordino Vreeland, married to Vreeland's grandson Alexander produces and directs. Clips from Vreeland's early life, career and family, visuals of her years at Harper's Bazaar, Vogue and the Metropolitan Museum of Art's Costume Institute along with interviews with Diane Sawyer, Andy Warhol, Calvin Klein, Oscar de la Renta and John Fairchild show a woman with a keen respect for cultural history and an original sense of style.

On to lunch in honor of Lisa at Harry's Bar hosted by Diego Della Valle, President of the Tod's Group and Italian Vogue's Franca Sozzani. Lisa's husband Alexander and father Nichlos join Jessica Chastian, Eli Roth, Bar Rafaeli, Shala Monroque, Bianca Brandolini d'Adda and Countess Bianca Arrivabene.

Once again I am sweating and wheeling all of my luggage back to Cipriani's, praying I do not run into pregnant Beyonce celebrating her 30th birthday with husband Jay-Z. Finally, I am settled into a pool-side suite

Sunday, Sept. 4, 2011

Press are lining up at 8 a.m. for the 9 a.m. screening of the steamy, evocative festival "it" film, Shame, directed by Steve McQueen, not the deceased white actor known for posing on a motorcycle, but a African Englishman who took the performer's name as his own. Michael Fassbender plays the tormented

30-something addicted to sex. Carey Mulligan is the wayward sister who moves into his apartment fostering chaos. She sings a chilling, slow sad blues version of "New York, New York" which was shot in the Boom Boom Room of the Standard Hotel. Ian Canning and Emile Sherman, producers of The King's Speech, sold this to Fox Searchlight, who will face the challenge of releasing a NC-17 movie.

I am backstage in the green room with Al Pacino—*the* Merchant of Venice—moments before he enters a packed pressroom to discuss Wilde Salome, his passionate documentary and feature mélange based on Oscar Wilde's play, the biblical tale of Salome and King Herod which explores the destructive use of sexuality. From biblical times to the Boom Boom Room—it's a big day for dysfunctional, obsessive sex.

Al, wearing a white silk loose shirt and sporting longish hair, looks like an escapee from Scarface. Jessica Chastain is about to explain her slithering, almost nude red scarf dance for King Herod. Al asks his second agent to write an acceptance speech for the Jagger-Le-Coultre Glory to Filmmaker Award he is to receive tonight.

The agent stays calm but clearly does not have a clue who to email in Hollywood for help. Al eventually realizes he will go on stage tonight and wing it. Now, the Italian press goes nuts as their hometown boy, Michael Corleone, makes his way to the podium. I saw this exact, almost religious, reverence last year when Sophia Coppola was in this pressroom for Somewhere. The Godfather is Italy's sacred film and its filmmakers are their cinema saints. Al passionately charms his worshipers. As his entourage is escorted out of the building to the waiting water taxi past screaming fans, one zealous guy jumps into the canal swimming and chanting "Al" "Al" "Al," with his arms in the air just like "Attica" "Attica" "Attica," in Dog Day Afternoon. Al waves back.

Al’s post-premiere dinner is at the Palazzo Grassi, built in 1740 and is now owned by Francois Pinault and used to exhibit his art collection. This is also where Amy Sacco transforms the lobby into her late-night, pop-up Bungalow 8 every evening.

Al, with his luscious Argentinean Lucila Sola, along with producer Barry Navidi and entourage, end up poolside at Cipriani's eating bowls of pasta and ice cream. Gary Oldman, Laurence Fishburne, Peter Brant and Owen Wilson pay respects. Owen receives praise for Midnight in Paris. Princess Firyal of Jordan wants Al to pose for a photo with her niece. Even Joel Arthur Rosenthal, the reclusive, Parisian jewelry designer aka JAR, who’s also known for accessorizing everyone from Elizabeth Taylor to Ellen Barkin is thrilled to meet Al.

Monday, Sept. 5, 2011

My ride to Venice is now going home via Geneva and Moscow without me.

Literary agent Lynn Nesbit and I go the premiere of Focus Feature's/John le Carre's Tinker, Tailor, Soldier, Spy. English producer Tim Bevans, Swedish director Tomas Alfredson and John le Carre with their cast Gary Oldman, Colin Firth, John Hurt, Mark Strong and newcomer Benedict Cumberbatch, get standing ovations before and after the film from the spotlighted balcony. Missing is Tom Hardy, this year's hottest young actor.

After Tinkers' dinner, we head back to Cipriani's to Charles Finch and producer Ed Pressman's evening with Caroline Scheufele, Co-President of Chopard to celebrate The Moth Diaries. Lynn represents Rachel Klein, author of the bestselling book. We dine with director Mary Harron and her young actresses Sarah Gadon and Sarah Bolger. Missing is Lily Cole. Her flight is cancelled due to the national one-day labor strike.

Tuesday, Sept. 6, 2011

Following the screenings of The Moth Diaries and a new version of Wuthering Heights with an African Heathcliff, I join Pressman and his cast of The Moth Diaries for lunch at the Excelsior. Jonathan Demme comes by. He is here with the post-Katrina New Orleans-set documentary, I'm Carolyn Parker: The Good, the Mad, and the Beautiful.

While housekeeping packs my clothes, I conclude that this is the year Hollywood embraces launching their Oscar-bound films oversees. The race began in May on the beaches of Cannes where Midnight in Paris and The Artist debuted with black-tie galas nightly.

Late August, American and English films dominate the Venice waterfront where Shame heats up amid more fancy parties in grand palazzos.

Tiny Telluride, now showing more European films was the next stepping stone with a Western hometown casualness.

September was Toronto, the mother of all film festivals that premieres its new exhibition space, the Bell Lightbox and a smorgasbord of 250 films. Here was the most user-friendly, fashion-free film festival where one walked to four films a day. Moneyball brings Brad Pitt to town, who brings Angelina Jolie. International stars end up at the Soho House whispering about "the race."

Early October is at Lincoln Center, home of The New York Film Festival that shows films that have debuted in the other festivals and await sanctioning from the American media and public. The academy members are yet to weigh in.

One ends up with the exhilarating feeling of experiencing world cinema through passionate festival curators giving support and clarity from directors to distributors and helping simple film fans like you and me. Let's not forget the geniuses, Steven Speilberg, Stephen Daldry, Clint Eastwood, David Fincher, Martin Scorcese and Jason Reitman who have bypassed the festival route. Let the race begin.

# Evilicious

*Explaining our taste for excessive harm*

**Marc D. Hauser**

Viking/Penguin

*For Jacques and Bert Hauser,*
*my parents,*
*my friends,*
*and my reminder*
*that life should be*
*lived to its fullest*

*Pleasure is the greatest incentive to evil.*
— Plato

*To witness suffering does one good, to inflict it even more so.*
— Friedrich Nietzsche

*Man produces evil as a bee produces honey.*
— William Golding

# Dear reader,

Having lived in Uganda and spoken with people who escaped from the savagery of the brutal dictators Milton Obote and Idi Amin, having heard stories of my father's childhood as a Jew running through Nazi occupied France, and reading past and present-day accounts of genocide, I am familiar with the horrors of evil. I have also been a student of human nature, trained as a scientist. These experiences have propelled me to study the causes of evil, attempt to make some progress in explaining it to myself, and hopefully to you. There is a great urgency to understanding this problem. None of us can afford to passively watch millions of individuals lose their homes, children, and lives as a result of malice. Sloth is a sin, especially when we live in a world where cultures of evil can so easily erupt.

I am also familiar with and deeply moved by human kindness, our capacity to reach out and help strangers. When my father was in a boarding school in the south of France, hiding from the Nazis, a little girl approached him and asked if he was Jewish. My father, conditioned by his parents to deny his background, said no. The girl, sensing doubt, said "Well, if you *are* Jewish, you should know that the director of the school is handing Jewish children over to the Nazis." My father promptly called his parents who picked him up, moved him to another village and school, and survived to tell the story. This little girl expressed one of our species' signature capacities: the ability to show compassion for another person, even if their beliefs and desires are different.

In preparation for writing this book, I read transcripts and descriptions of thousands of horrific events, listened to personal stories of survivors from financial ruin and war, worked with abused children who were crucified by unfit parents, and watched both fictional films and documentaries that portrayed psychopaths, dictators of totalitarian regimes, and their hapless victims. As one often does in these circumstances, I developed a tougher skin over time. But I have never lost track of the human travesties that result from evil. As my father's story suggests, I have also not lost sight of the fact that we are a species that has done great good, and will continue to do so in the future. Nonetheless, to provide a sound and satisfying explanation of evil we must avoid falling into more romantic interpretations of the human condition. Our best protection is science. This is the position I will defend.

The topic of evil is massive. This is, however, a short book, written without exhaustive references, in-depth descriptions of our atrocities, and comprehensive engagement with the many theories on offer to explain evil. What I offer is my own explanation of evil, of how it evolved, how it develops within individuals, and how it affects the lives of millions of innocent victims. It is a minimalist explanation of evil that is anchored in the sciences. I believe, as do many scientists, that deep understanding of exceptionally complicated phenomena requires staking out a piece of theoretical real estate with only a few properties, putting to the side many interesting, but potentially distracting details. This book extracts the core of evil, the part that generates all the variation that our history has catalogued, and that our future holds.

Sincerely,

MHauser

# Acknowledgements

I wrote this book while my cat, Humphrey Bogart, sat on my desk, staring at the computer monitor. Though he purred a lot, and was good value when I needed a break, he didn't provide a single insight. Nor did our other pets: a dog, rabbit, and two other cats. For insights, critical comments on my writing, comfort, and endless love and inspiration, there is only one mammal, deliciously wonderful, and without an evil bone in her body — my wife, Lilan.

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Errol Morris… for heated discussion, camaraderie, and insights into evil through his cinematographic lens and critical mind.

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# Prologue: Evilution

> "There is no such thing as eradicating evil [because] the deepest essence of human nature consists of instinctual impulses which are of an elementary nature… and which aim at the satisfaction of certain primal needs."
>
> ***-- Sigmund Freud***

I was drowning. This was not the first time. It was also not because I was a poor swimmer. I was 14 years old. A boy named Lionel James, who was the same age but twice my size, was shoving my head under water, roaring with laughter as I struggled to gasp some air.

I usually managed to avoid Lionel in the pool, but sometimes he got the best of me while I was playing with friends. Lionel wasn't the only one who bullied me in junior high school. He was part of an evil three pack, including Ronnie Paxton and Chris Joffe, each much larger and stronger than I. Almost daily they locked me inside of the school's lockers, bruised my arms by giving me knuckle-punches, and gave me purple-nurples by twisting my nipples. This was no fun for me. For James, Paxton, and Joffe it was delicious enjoyment. Sometimes, while I was locked in my locker, my math teacher would let me out and then ask "Why do you get yourself into these situations?" Though I had great respect for my teacher's math abilities, and actually had a crush on her, she was socially daft. Did she think I asked to be packaged up in the locker by my tormenters? It was sheer humiliation.

One day my mother noticed the bruises. Horrified, she asked what happened. I reluctantly told her the story. She said we were going to talk with the principal. I told her I would prefer water drip torture. She understood and we never went to see the principal.

The person who rescued me from my misery was my father, a man who had lived through the war as a child, running from village to village to escape the Nazis, and in so doing, confronted thuggish farm boys whose weight far exceeded their IQ. My father, upon hearing that I didn't want to go to school anymore, offered a compromise: he would pick me up for lunch every day if I kept going to classes. I agreed, relishing the idea of escaping the lunch-time scene at school where James, Paxton and Joffe pummeled me at will without getting caught.

A month passed. I felt better. My father told me that it was time to go back to lunch at school, but with a plan, one centered around the notion of respect. The only way to command it from my tormenters was to fight back. "But Dad," I said, "if I hit them, they will crush me." "They might," he said, "but you will have gained some respect, and they may turn their attention to someone else." It seemed like a remarkably stupid idea. But my father lived through a war and fought his way to respect among the thugs in every village school. I decided to give it a go.

I went back to school. Soon thereafter, I found myself standing behind Paxton who displayed biceps bigger than my head. I figured I had only one shot. I tapped him on the shoulder and swung as hard as I could, hitting him square in the chest. What aim. What perfection. What wasted energy. With no more than a flinch, Paxton looked down at me, fury in his face, and grunted "What's up with you?" With tears running and lips trembling, I sputtered "I can't take it anymore. You, Joffe, and James are constantly hitting me and locking me in the lockers. I can't take it!" And then, as if his entire brain had been rewired, serotonin surging to provide self-control, dopamine flowing to shift his sense of reward, the hulk spoke: "Really? Okay, we'll stop." And just like that, Paxton, Joffe and James stopped. No more locker games, no more bruises. They even saw me as a useful resource, someone who could help them pass some of their exams. From victim to victory.

I was fortunate. Many are not. Thousands of children throughout the world are persecuted in a similar way but never fight back or if they do, are crushed for trying. Some are pushed so hard that they commit suicide, tragedies that increasingly make headline news reports.

The fact that bullies often torment their victims for personal gain, cause great harm, and often enjoy the experience — as did Lionel James — fits well with a common view of evil. On this view, we think of someone as evil if they inflict harm on innocent others, knowing that they are violating moral or legal norms, and relishing the abuse delivered. But what of bullies who, due to immaturity or brain deficits, simply don't understand the scope of moral boundaries? What if they impose great harm on their victims, but don't enjoy the experience? What if the victims are not entirely innocent, such as those who double-time as bullies?

We can debate questions like these on philosophical grounds, attempting to refine what, precisely, counts as an act of evildoing as opposed to some mere moral wrong, like breaking a promise or having an affair while married. Many have. I don't believe, however, that this is how we will achieve our deepest understanding. Instead, I turn to the sciences of human nature, focusing on cases where people directly or indirectly cause excessive harm to innocent others as the essence of evil. To explain this form of evil, we must dissect the underlying psychology, the brain circuits that generate this psychology, the genes that build brains, and the evolutionary history that has sculpted the genetic ensemble that makes us distinctively human. This is the approach I pursue. If I'm right about this approach, not only will we gain a deeper understanding of how and why our species has engaged in evildoing, but we will learn about our own individual vulnerability to follow suit. This prologue provides a sampling of the central ideas minus the rich evidence and explanations that follow in the four core chapters of this book.

## *A brief history of malice*

*Homo sapiens*, the knowing and wise animal, has logged an uncontested record of atrocities, despite moral norms prohibiting such actions: no other species has abducted innocent children into rogue armies and then killed those who refused to kill, tossed infants into the air as targets for shooting practice, gang raped women to force them to carry the enemy's fetus to term while destroying the souls of their powerless husbands, and mutilated and burned men to death because more humane forms of killing were less effective and enjoyable. These are horrific acts. They abound globally and across the ages. Many scholars have judged them as evil.

Despite the pervasiveness of these atrocities, evil is commonly perceived as a defect, an unfortunate malignancy that has engulfed and metastasized within our species' essential goodness. Evil is also denied, relegated to mythology, the delusional imagination of a few madmen, the propaganda of imperialist nations, or the result of a rare mutation. Perhaps because of these impressions, we have an obsessive fascination with evil, evidenced by our fertile capacity to create and then consume films about genocide, cunning rapists, master criminals, corporate raiders, psychopaths and serial killers. We are of two minds, wanting to hide from the atrocities of evil while feeding our insatiable appetite for more.

To understand evil is neither to justify nor excuse it, reflexively converting inhumane acts into mere accidents of our biology or the unfortunate consequences of bad environments. To understand evil is to open a door into its essence, to clarify its causes. In some cases, understanding may force us to exonerate the perpetrators, recognizing that they harbored significant brain damage and as a result, lacked self-control or awareness of others' pain. In other cases, understanding will reveal that they knowingly caused harm to innocent others, relishing the devastation left behind. By describing and understanding an individual's character with the tools of science, we are more likely to make appropriate assignments of responsibility, blame, punishment, and future risk to society.

To understand evil requires facing our species' sustained record of atrocities, laying out a variety of cases for inspection. Former Reverend Lawrence Murphy was responsible for over two hundred instances of sexual abuse, luring innocent deaf children in with a saintly smile. Charles Manson, the illegitimate son of a sixteen year old woman and the self-proclaimed father of dozens of runaway women, was responsible for the brutal death of five people by means of 114 knife jabs, while also prostituting his lovers, beating his wife, selling drugs, and stealing cars. Former Chairman of the NASDAQ stock exchange, Bernard Madoff, was responsible for initiating a Ponzi scheme involving money laundering, perjury, and mail fraud that caused thousands of people to suffer financial ruin. Jane Toppan, born Honora Kelley, was an American nurse who was responsible for killing over 30 patients by drug overdose, stating in her testimony that she experienced a sexual thrill when she held dying patients, and that her goal in life was to kill more innocent people than anyone else in history. Former military specialist Charles Granger was responsible for forcing nudity and sex among the Iraqi prisoners of Abu Ghraib, putting individuals on dog leashes, depriving them of their senses with head bags, and piling naked bodies into photographed still lifes, orchestrations that led to the ultimate humiliation and dehumanization of these prisoners.

Depending upon how we think about the problem of evil, we might consider the individuals noted above as minor evildoers or not evil at all because the harms were rather insignificant, because their goal wasn't to directly harm anyone and then enjoy the trail of damage, or because they lacked the mental capacity to assume responsibility for the atrocities committed. These individuals pale in comparison with the most unambiguously radical evildoers of the 20-21st century — the dictators Idi Amin, Francisco Franco, Adolf Hitler, Kim Jong-il, Slobodan Milosevic, Pol Pot, Josef Stalin, Charles Taylor, and Mao Zedong. These men were responsible for the brutal deaths of approximately 80 million people combined. Most were mentally healthy, at least in terms of clinical diagnoses. Many relished their atrocities. All devised over-the-top means of ending lives. Whether by enticing or coercing their followers to torture, gang rape, and butcher human flesh, they went beyond what was necessary to get rid of unwanted others. These are excessive harms, carried out with excessive techniques. In this book, I will not only explore these extreme cases, but more mundane ones as well. Each case helps shape our understanding of what propells some individuals to cause harm on small or large scales, while others avoid it entirely, despite temptations to the contrary.

## *Why and How?*

To explain the landscape of human atrocities, from Reverend Lawrence Murphy to Mao Zedong, we need an account of why we evolved this capacity and how it works. I will explain both of these problems using the theories and evidence of science.

Why? *Evil evolved as an incidental consequence of our unique form of intelligence.* All animals show highly specialized abilities to solve problems linked to survival. Honey bees perform dances to tell others about the precise location of nutritious pollen, providing an information highway that lowers the costs of individual foraging challenges. Meerkats teach their young how to hunt dangerous but energy-rich scorpion prey, providing an education that bypasses the risks of trial and error learning. Humans unconsciously wrinkle their noses and pull back their lips into an expression of disgust that communicates information about disease-ridden and toxic substances, thereby lowering the costs of sickness to others who might be exposed. Each of these specializations involve exquisitely designed neural circuits and sensory machinery. Each specialization is used for one and only one problem — except in humans. Animal thoughts and emotions are like monogamous relationships, myopically and faithfully focused on a single problem for life. Human thoughts and emotions are like promiscuous relationships, broad-minded and liberated, free to couple as new problems surface.

Unlike any other animal, the thoughts and emotions we use to solve problems in one domain can readily be combined and recombined with thoughts and emotions from other domains. This is powerful, providing great flexibility in addressing novel problems, some of which we create for ourselves. Disgust provides an example. Disgust originally evolved as an adaptive response to detecting substances that are toxic to our health, especially substances that are outside of the body but should be inside: feces, urine, blood, and vomit. Within the circulation of a promiscuous brain, however, disgust journeys to distant problems, including the moral attitude of vegetarians toward meat eaters, our revulsion toward incest, and abhorrence of gratuitous torture. This journey involves the same brain mechanism that serves original disgust, together with new connections that give voice to our moral sense. Promiscuity enables creativity.

What the sciences reveal is that the capacity for promiscuous thinking was realized by evolutionary changes in the number of newly wired up brain areas. By increasing these connections, it was possible, for the first time, to step outside the more narrow and specialized functions of each particular brain area to solve a broader range of problems. Though we don't know precisely when these changes occurred, we know they occurred after our split from the other great apes — the orangutans, gorillas, bonobos and chimpanzees. We know this from looking at both the brains of these species, as well as the ways in which they use tools, communicate, cooperate, and attack each other. Not only are there fewer connections between different regions of the brain, but their thinking in various domains is highly monogamous, faithfully dedicated to specific adaptive problems.

Empowered by our new, massively connected and promiscuous brain, we alone migrated into and inhabited virtually every known environment on earth and some beyond, inventing abstract mathematical concepts, conceiving grammatically structured languages, and creating glorious civilizations rich in rituals, laws, and beliefs in the supernatural. Our promiscuous brain also provided us with the engine for evil, but only as an incidental consequence of other adaptive capacities, including those that evolved to harm others for the purpose of surviving and reproducing.

All social animals fight to gain resources, using highly ritualized behaviors to assess their opponents and minimize the personal costs of injury. Changes in hormone levels and brain activity motivate and reward the winners, and minimize the costs to the losers. In a small corner of the landscape of aggressive fighting styles are an elite group of killers, animals that go beyond harming their opponents to obliterating them: ants, wolves, lions, and chimpanzees. When these species attack to kill, they typically target adult members of neighboring groups, using collaborative alliances to take out lone or otherwise vulnerable victims. The rarity and limited scope of this form of lethal aggression is indicative of monogamous thinking, and tells us something important about the economics — especially the costs and potential rewards of eliminating the enemy, as opposed to merely injuring them. Killing another adult is costly because it involves intense, prolonged combat with another individual who is fighting back. The risks of significant personal injury are therefore high, even if the potential benefit is death to an opponent. As the British anthropologist Richard Wrangham has suggested, animals can surmount these costs by attacking and killing only when there is a significant imbalance of power. This imbalance minimizes the costs to the killers and maximizes the odds of a successful kill. Still, the rarity of killing reinforces an uncontested conclusion among biologists: all animals would rather fight and injure their opponents than fight and obliterate them, assuming that obliteration is costly to the attacker. In some cases, we are just like these other animals — killophobic.

Historical records, vividly summarized by Lieutenant Colonel Dave Grossman in his book *On Killing,* reveal that in some situations, soldiers avoid killing the enemy even though they could have. For example, despite the fact that Civil War regiments had the potential to kill 500-1000 individuals per minute, the actual rate was only 1-2 per minute. This suggests that under some conditions, killing another when you can see the whites of their eyes is hard. But as the history of genocides reveal, we have evolved ways to bypass this limitation, making us killophilic in a variety of situations. Our brain's unique capacity for denial is one of the liberating factors.

By recruiting denial into our psychology's artillery, we invented new ways of perceiving the enemy or creating one, distorting reality in the service of feeding a desire for personal gain. Denial, like so many aspects of our psychology, generates beneficial and toxic consequences. Self-deceiving ourselves into believing that we are better than we are is a positive illusion that often has beneficial consequences for our mental and physical health, and for our capacity to win in competition. Denying others their moral worth by reclassifying them as threats to our survival or as non-human objects is toxic thinking. When we deny others their moral worth, the thought of killing them is no longer aversive or inappropriate. If we end someone's life in defense of our own, we are following our evolved capacity for survival. When we destroy a parasite, we are also protecting our self-interests to survive. And when we destroy an inanimate object or lock it away, there is no emotional baggage because we have bypassed the connection to individual rights; we have cut out morality as the governor. This suite of transformations, enabled by our promiscuous brain, allowed us to occupy a unique position within the animal kingdom as large scale killers.

Chimpanzees only kill adults when there are many attackers against one victim, with the vast majority of kills focused on individuals outside of their own group; most kills within the group are aimed at infants, where the costs to the attacker are low. Though humans also kill members of enemy groups when there are many against one — a pattern that is common among hunter-gatherers and other small-scale societies — we depart from this narrow pattern in terms of numbers and the array of potential victims. When humans kill, we go at it with many against many, one against one, and even one against many, including as victims both those outside of our group and those within, young and old, same and opposite sex, and mating partner and competitor.

Add the chimpanzee's adaptive capacity for coalitionary killing to the promiscuous capacity of the human brain, and we arrive at a uniquely aggressive species, one capable of inflicting great harm on others in any context. Though the modern invention of scud missiles and stealth bombers undoubtedly enriched our capacity to kill on a large scale by putting distance between killers and victims, these weapons of mass destruction were not necessary. Today, we need only travel back a few years to 1994 to witness the machete genocides of Rwanda, a painful memory of our capacity to wipe out close to a million people in 100 days with hand to hand combat. This is excessive harm, enabled by our ability to use denial to minimize the perceived costs of killing another person and to motivate the anticipated benefits. Denial turns down the heat of killing another and turns us into callous predators.

Evolutionary changes in the connections to the brain's reward system provided a second, cost-offsetting step, allowing us to move into novel arenas for harming others. When an animal wins a fight, the reward circuitry engages, providing a physiological pat on the back and encouragement for the next round. This same circuitry even engages in anticipation of a battle or when watching winners. The reward system is important as it motivates competitive action in situations that are costly. There is one situation, however, where the reward system is remarkably quiet, at least in all social animals except our own: detecting and punishing those who attempt to cheat and free-ride on others' good will.

Punishment carries clear costs, either paid up front in terms of resources expended on physically or psychologically attacking another, or paid at the end if the victim fights back or retaliates. These costs can be offset if punishers and their group benefit by removing cheaters or teaching them a lesson. Among animals, punishment is infrequently seen in vertebrates, especially our closest relatives the nonhuman primates. When it is seen, the most common context is competition, not cooperation. Like lethal killing, then, punishment in animals tends to be restricted to a narrow context. Like lethal killing, punishment in animals is psychologically monogamous.

Punishment in humans is emblematically promiscuous. We castigate others whenever they violate a social norm, in both competitive and cooperative situations, targeting kin and non-kin. Punishment is doled out by the individual directly harmed and also by third party onlookers. We use both physical and non-physical means to discipline cheaters, including ostracism. Punishment's landscape is vast.

The idea I develop here, building on the work of scholars in economics, psychology, and anthropology, is that our species alone circumvented the costs of punishment as an incidental consequence of promiscuity, including an intimate coupling between the systems of aggression and reward. As several brain imaging studies reveal, when we either anticipate or actually punish another, or even witness punishment as a mere bystander, our reward circuitry delivers a honey hit. Delivering just deserts, or watching them delivered, is like eating dessert. We absorb the costs of punishment by feeling good about ratting out the scourges, banishing them from society, and sometimes from life itself. Ironically, as the economist Samuel Bowles has suggested based on mathematical models and a synthesis of the historical record, punishment can strengthen solidarity and cooperation within the group, while simultaneously enhancing antagonism and prejudice toward those outside the inner sanctum. Ironically, the psychology that benefited cooperation among like-minded others may also have functioned to destroy those who have different beliefs and values.

The emergence of promiscuous punishment was a momentous event in human history, a celebration of exquisite brain evolution and adaptive design. But this achievement carried a hidden cost, a debt that we continue to pay: A mind capable of feeling good about punishing in the name of virtue is a mind capable of doing bad to feel good. It is a mind that finds real or simulated violence entertaining and seeks ways to satisfy this interest. It is a mind that enjoys watching others suffer while singing O Schadenfreude. It is a mind that is capable of feeling good about killing others who are perceived as parasitic on society. It is a mind that can override the anticipated costs of killing by fueling a taste for killing.

Desire, denial, aggression and reward are each associated with specific psychological processes, distinct evolutionary histories, and specific adaptive problems. When processed by a promiscuous brain, these systems connect in ways that are both beneficial to human welfare and deeply deleterious.

How? *Evil occurs when individuals and societies allow desire for personal gain to combine with the denial of others' moral worth to justify the use of excessive harms.* Everyone has desires, resources they want and experiences they seek. Our desires motivate us into action, often to fulfill personal needs or to help others. We all desire good health, fulfilling relationships, and knowledge to explain the world. Some also desire great wealth and power, each culture weighing in on its signature vision of what counts: money, land, livestock, wives, and subordinates. The desire system motivates action in the service of rewarding experiences. Some actions have benign or even beneficial consequences for the welfare of others, while others have malignant and costly consequences.

Exquisite studies pioneered by the American cognitive neuroscientist Kent Berridge have uncovered the core elements of pleasure, including distinctive systems of wanting, liking and learning. We, and hundreds of other species, often want things we like, and like things we want. This is, obviously, an adaptive coupling. Thanks to experiments at the level of genes, neurons, and behavior, we can tease apart these three systems. Thanks to naturally occurring situations, we can watch these systems come unglued over the course of addictions, leading to the paradoxical and maladaptive situation of wanting more and more, but liking the experience less and less. Addictions, as archetypal examples of excess, provide a model for thinking about evil and its trademark signature of excessive harm.

The paradoxical decoupling between wanting and liking is seen most clearly in studies of obesity in rats and humans, where individuals develop skyrocketing desires for food, but fail to experience comparable pleasure from eating. By definition, those who become obese are prone to eat in excess. One reason they do is because eating, or even seeing images of food, no longer delivers the same honey hit to the brain as in their pre-obesity days. The reward system turns off when we turn to excess. This is adaptive because nothing in excess is good. But because the wanting system runs independently, the adaptive response by the liking system has the unfortunate consequence of making us want more even though we enjoy it less. The proposal I develop in this book is that the same process is involved in evil, especially its expression of excessive harm. It is a process that is aided by denial.

Everyone engages in denial, negating certain aspects of reality in order to manage painful experiences or put forward a more powerful image. But like desire, denial has both beneficial and costly consequences for self and others. When we listen to the news and hear of human rights violations across the globe, we often hide our heads in the sand, plug our ears, and carry on with our lives as if all is okay on planet Earth. When doctors have to engage in slicing into human flesh to perform surgery, they turn off their compassion for humanity, treating the body as a mechanical device, at least until the surgery is over, and the patient awakes, speaks and smiles. When we confront a challenging opponent in an athletic competition or military confrontation, we often pump ourselves up, tricking our psychology into believing that we are better than we are. Denial turns down the heat of emotion, allowing a cooler approach to decision making and action. But doctors in denial concerning the moral worth of others can be convinced to carry out heinous operations for the "good" of science or the purity of their group, and military leaders in denial of an opponent's strength can lead their soldiers to annihilation. Individuals in denial can reject different aspects of reality in the service of reward, whether it is personal gain, avoiding pain, or enabling the infliction of pain on others.

In a competitive world with limited resources, our desire system never rests. This is a good thing as it motivates us to take care of our self-interests and strive for bigger and better. But a desire system that never sleeps is a system that is motivated to accrue ever larger coffers or power. To satisfy this inflationary need is often not possible without harming others, either directly or indirectly. To offset the costs of harming another, desire recruits denial. This is a recipe for evil and the creation of excessive harms. It is a recipe that takes two, often benign and highly adaptive ingredients that are essential for motivating action and promoting survival, and combines them into an explosive outcome. Seen in this way, our capacity for evil is as great as our capacity for love and compassion. Evil is part of human nature, a capacity that can't be denied. What I will show is both how this capacity works, and how some of us, due to biological inheritance and environmental influence, are more likely to end up as evildoers.

Historical material on the lives of Franz Stangl and Adolf Eichmann, leaders in the Nazi annihilation of Jews, illustrates how desire and denial combine within individual minds to create excessive harms. Although this is a historical example, focused on the lives of only two men, stories like theirs have been recounted hundreds of times, all over the globe and across time. This pattern points to common mechanisms, identified in detail by the sciences of human nature.

Stangl was a politically motivated man with a burning desire to climb to the top of the Nazi hierarchy. A clear path opened when he was appointed commander of the Polish prison Treblinka. Unbeknownst to Stangl, Treblinka was one of the Nazi's concentration death camps. To fulfill his desire for power therefore required harming thousands of others, or more accurately, commanding Nazi soldiers to harm others on his behalf. But since Stangl had no burning desire to harm the Jews, he dehumanized them, transforming living, breathing, feeling, and thinking people into lifeless "cargo" — his own expression. Stangl was dry-eyed as officers under his command killed close to one million Jews, one third of them children. The reward? Power and status within the Nazi hierarchy. The death of innocent Jews was a foreseen consequence of Stangl's desire for power, not his direct goal.

Eichmann, Lieutenant Colonel in the Nazi regime, was considered one of the central architects of the Final Solution, the master plan for the extermination of Jews. Eichmann denied Jews their humanity by championing the pamphlets and posters that portrayed them as vermin and parasites. This dehumanizing transformation empowered Eichmann's belief that cleansing was the only solution to German integrity and power. Eichmann's reward? Elimination of the Jews. Unlike Stangl, killing Jews was rewarding. As the historian Yaacov Lozowick stated "Eichmann and his ilk did not come to murder Jews by accident or in a fit of absent-mindedness, nor by blindly obeying orders or by being small cogs in a big machine. They worked hard, thought hard, took the lead over many years. They were the alpinists of evil."

Stangl and Eichmann: two different routes into evil. Both possible and both equally lethal to humanity.

This is a lean explanation of why evil evolved and how it develops within individuals and societies. It is an explanation that strips evil down to its root causes, focusing on the core psychological ingredients that enable us to violate moral norms and cause excessive harms to innocent others.

## *A difficult journey*

This book takes you on a journey into evil. It is a story about our evolutionary past, our present state of affairs, and the prospects for our future. It is as much a story about you and me, as it is about all of our ancestors and future children. It is a story about the nature of moral decay and the prospects of moral growth. It is story about society's capacity to engineer great harm, and about our own individual responsibility to avoid joining in.

Explaining how our genes create brains that create a psychology of desire and denial that leads to excessive harms provides a satisfying explanation for the landscape of evil. It explains all varieties of evil by showing how particular genetic combinations can create moral monsters and how particular environmental conditions can convert good citizens into uncaring killers and extortionists. This explanation will not allow us to banish evil from the world. Rather, it will enable us to understand why some individuals acquire an addiction to feeling good by making others feel bad, and why others cause unimaginable harm to innocent victims while flying the flag of virtue. This, in turn, will help us gain greater awareness of our own vulnerabilities by monitoring the power of attraction between desire and denial.

# Endnotes: Prologue. Evilution

*Recommended books:*

There are numerous books about evil, most written by philosophers, theologians, historians, political scientists, and legal scholars. The following recommendations are for books about evil written by scientists. They are terrific, I have learned a great deal from them, and some of their ideas powerfully enrich the pages between these covers.

Baumeister, R. F. (1999). *Evil. Inside human violence and cruelty.* New York, W.H. Freeman.
Baron-Cohen, S. (2011). *The Science of Evil.* New York, Basic Books.
Oakley, B. (2007). *Mean Genes.* New York, Prometheus Books.
Staub, E. (2010). *Overcoming Evil.* New York, Oxford University Press.
Stone, M. H. (2009). *The Anatomy of Evil.* New York, Prometheus Books.
Zimbardo, P. (2007). *The Lucifer Effect.* New York, Random House.

*Notes:*

• For a philosophical account of the nature of goodness that treats evil as a deviation from our species' repertoire, see Philippa Foot *Natural Goodness* (2001, Oxford, Clarendon Press).

• For an explicit, philosophical argument for the connection between pleasure and evil, see Colin McGinn's *Ethics, Evil and Fiction* (1997, Oxford, Oxford University Press). For a comprehensive discussion of evil by a philosopher, including important critiques of the existing literature, see John Kekes' *The Roots of Evil* (2007, Ithaca, Cornell University Press)

• On killing throughout history: Wrangham, R.W. & Glowacki, L. (in press). Intergroup aggression in chimpanzees and war in nomadic hunter-gatherers: evaluating the chimpanzee model. *Human Nature*; Bowles, S. (2009). Did warfare among ancestral hunter-gatherers affect the evolution of human social behaviors? *Science, 324*, 1293-1298; Choi, J.-K., & Bowles, S. (2007). The coevolution of parochial altruism and war. *Science, 318*, 636-640; Grossman, D. (1995). *On killing: the psychological costs of learning to kill in war and society*. New York, NY: Little, Brown.

• For a summary of research on desire, especially the elements of wanting, liking and learning, see Berridge, K.C. (2009). Wanting and Liking: Observations from the Neuroscience and Psychology Laboratory. *Inquiry, 52*(4), 378-398; Kringelbach, M.L., & Berridge, K.C. (2009). Towards a functional neuroanatomy of pleasure and happiness. *Trends Cognitive Science 13*(1), 479-487.

• The most serious treatment of Stangl can be found in the penetrating interview by Gitta Sereny (1974, *Into that Darkness*: *From Mercy Killing to Mass Murder.* London: Random House). There have been different treatments of Adolf Eichmann, most famously by Hannah Arendt in her *Eichmann in Jerusalem: A report on the banality of evil.* (1963, New York, Viking Press). Arendt's perspective on Eichmann as an ordinary gentleman who simply followed orders has been seriously challenged, suggesting that he was anything but a banal evildoer; the quote by Holocaust scholar Yaacov Lozowick is one illustration of the more generally accepted view that Eichmann was a radical evildoer with heinous intentions to exterminate the Jews. He may have lived a calm and peaceful existence outside of his day job at Nazi headquarters, but this was no ordinary citizen.

*Quotes:*

- Quote by Lozowick on Eichmann and banality of evil: Lozowick, Y. (2002) *Hitler's Bureaucrats: The Nazi Security Police and the Banality of Evil.* New York, Continuum Press, p. 279.

# Chapter 1:
# Nature's secrets

> Nature hides her secrets because of her essential loftiness, but not by means of ruse.
>
> — ***Albert Einstein***

In Charles Darwin's day, biologists unearthed the mysteries of evolution by means of observation, sometimes accompanied by a simple experiment. This was largely a process of documenting the patterns of variation and uniformity that nature left behind. Only breeders were directly involved in manipulating these patterns, using artificial selection to alter the size, shape, coloration, and lifespan of plants and animals.

The Darwins of today continue this tradition, but with new tools, informed by understanding of the genetic code and aided by technical developments in engineering, physics, chemistry, and computer science. These tools allow for deeper penetration into the sources of change, and the causes of evolutionary similarities and differences. They also enable biologists to change the course of evolution and the patterns of development by turning genes off or turning novel ones on, and even creating synthetic organisms in test tubes — a wonderful playground for understanding both questions of origin, change, and extinction.

The Darwins of today are cowboys, trailblazing a new frontier of understanding. But like the frontier of the early American wild west, nature holds many secrets and surprises. Sometimes when we break through nature's guard, we gain fundamental truths about the living world, knowledge that can be harnessed to improve animal and human welfare. But sometimes when we break through, we create toxic consequences and ethical dilemmas. Tampering with nature is risky business as there are many hidden and unforeseen consequences.

In 1999, the molecular biologist Joe Tsien and his team at Princeton University tampered with mother nature. Their discovery, published in a distinguished scientific journal, soon filled the newspapers, radio airwaves, and even a spot on Dave Letterman's late night television show. Tsien manipulated a gene that was known to influence memory, causing it to work over time. This created a new line of mice with a special accessory: an upgraded memory and learning system. When these new and improved mice ran through an IQ test, they outperformed normal mice.

Tsien pulled off an extraordinary engineering trick, creating a lineage of smarter mice. This is cowboy science, showing the power of genetic tampering to open the door to evolutionary changes. In a world of competition, one would imagine that selection should favor these smart mice who have better recall of essential foraging routes, previous social interactions, and places to rest out of harm's way from predators. But in biology, there are always trade-offs. Benefits in one area of life are often accompanied by costs in others.

Several months after Tsien's report, a follow-up study of the same memory-enhanced mice appeared in print, also in a distinguished scientific journal. But this time there was no media fanfare. The new work was carried out by Min Zhuo at Washington University, an ex-member of Tsien's lab and a co-author of the original paper. Zhuo's new paper confirmed that memory-enhanced mice were indeed smarter, but also showed that they were more sensitive to pain, licking their wounds more and for longer periods of time than normal mice. Though it is unclear whether Zhuo's results reveal heightened pain sensitivity, stronger memories for pain, or some combination of these and other processes, what is clear is that the engineering that led to smarter mice led to much more.

Tsien and Zhuo's work shows that even with targeted, artificial changes in the underlying biology, unanticipated consequences are common. It also shows that deep within the biology of every organism lies hidden capacities and potential for change. Unleashing these *sub rosa* capacities can have both beneficial and costly consequences for the individual and group.

The idea I develop in this chapter is that our capacity for evil evolved as an incidental, but natural consequence of our uniquely engineered brain. Unlike any other species, our brain promiscuously combines and recombines thoughts and emotions to create a virtually limitless range of solutions to an ever-changing environment. This new form of intelligence enabled us to solve many problems, but two are of particular interest given their adaptive consequences: killing competitors and punishing cheaters in a diversity of contexts. But like the painful fall-out from *artificially* engineering a smarter mouse, so too was there fall-out from the *natural* engineering of a smarter human: a species that experiences pleasure from harming others. This is part of the recipe for evil.

This chapter sets out the evidence to support the idea that evil evolved as an incidental consequence of our brain's design. I begin by discussing the two general processes that landed us in the unforeseen and uninhabited niche of evildoers: the evolution of byproducts and promiscuous connections within the human brain. Because these are general processes, we will take a short reprieve from matters specifically evil.

## *What's it for?*

About 50 million years ago, a family of insects — the Phylliinae — evolved a distinctive piece of anatomy: a body that looks like a leaf. They also evolved the capacity for catalepsy or statuesque stillness. Their leafy body is so exquisitely designed that even predators with superb search images are fooled as they walk or fly by. But from the fact that the leafy body provides these insects with an invisibility cloak, and the fact that this enables them to escape predation, we cannot conclude that the leafy body evolved *for* predator evasion. What something is *used for today* may be different from what it *evolved for* — the difference between current utility and original function. To show that the leafy body evolved *for* predator evasion, we need to know more, which we do. For one, the leafy body is paired up with a requisite behavioral adaptation: turning to stone. If leaf insects fluttered about as actively as any other insect, their motion alone would cry out to the predators. Optimal effectiveness requires acting like a leaf. But acting like a leaf without the leafy body has its own independent benefits, paying off in terms of predator evasion, as well as sneaking up on potential mates. It would therefore make good sense if stillness evolved first followed by a leafy body. This is precisely what evolution's record reveals.

The adaptive advantage that comes from statuesque stillness and a leafy camouflage can only be measured against the backdrop of today's predator line-up. If some future-predator evolves more sophisticated abilities to discriminate real leaves from faux leaves, the Phylliinae will be out of luck. This new pressure from predators will, in turn, push for new evasive tricks, thus initiating the classic cycle of predator-prey evolution. What is adaptive for the Phylliinae today, may not be adaptive tomorrow.

The comparative study of the Phylliinae raises a class of questions posed by all evolutionary biologists, independently of their taxonomic biases or interests in physiology, morphology, or behavior: How did it originally evolve? What adaptive problem did it solve? Did it evolve to solve one adaptive problem, but over time shift to solve another — a case of what the late evolutionary biologist Stephen J. Gould referred to as an *exaptation*? Does the exaptation generate profits or losses for survival and reproduction? Is the trait associated with byproducts, incidental consequences of the evolutionary process? What effects, if any, do these byproducts have on survival and reproduction? These questions apply with equal force to evil as they do to language, music, mathematics, and religion. The fact that evil, relative to a leafy body, is more difficult to define, harder to measure, and impossible to experiment upon — at least ethically — doesn't mean we should take it off the table of scientific inquiry. What it means is that we must be clear about what we can understand, and how we can distinguish between the various interpretations on offer. When we explore the evolution of evil, what are we measuring and what evidence enables us to distinguish between adaptive and non-adaptive explanations? To answer this question, let us look at two illustrative examples that are more challenging than leafy coverage in insects: the evolution of tameness and religion.

Sheep, goats, cows, cats, and dogs are all domesticated animals, created by the forces of artificial selection. All have been transformed from a wild type to an animal that not only lives with us, but sometimes lives for us as food. All are more relaxed, less fearful, and less stressed in the presence of humans than their wild ancestors. Many of these animals seek human companionship. These are the trademark features of tameness. They are also consistently associated with other features that never entered into the breeder's calculations: floppier ears, curlier tails, more mottled fur, greater sensitivity to human communication, reduced response to predators, earlier sexual maturation, smaller brains, and higher levels of serotonin — a chemical messenger of the brain that regulates self-control. Some of these features appear directly relevant to tameness, whereas others appear entirely irrelevant. For example, serotonin is critically linked to self-control which is critically linked to an animal's ability to suppress aggression when threatened, which is critically linked to building a life with humans. Mottled fur is not critically linked to any of these benefits.

Domestication leads to a pastiche of characteristics, some indicative of the domesticator's goals and others orthogonal to it. How does the process of domestication, and artificial selection in particular, generate both desired and unanticipated traits?

In most cases of animal domestication, we know little about how the wild type changed because the only available information is either anecdotal or based on loose archaeological reconstructions. Consider the domestication of dogs from wolves, and especially the variability among dog breeds. Though it is clear that humans throughout history have bred dogs to serve particular functions, including herding, aggressive defense, and companionship, each of these personality styles is linked to other behavioral and physiological traits. For example, breeds with high activity levels are smaller than breeds with low activity levels, aggressive breeds have higher metabolic rates than docile breeds, and obedient breeds live longer than disobedient breeds. Does selection for aggressiveness cause an increase in metabolic rate or does selection for higher metabolic rate allow for heightened aggressiveness. Because these are all correlations, we don't know which trait pushed the other to change or whether both traits were favored at the same time.

There are two situations that provide a more clear-cut understanding of which feature was favored by selection and which emerged as an incidental byproduct: controlled experiments and domestication efforts that resulted in unambiguously undesirable traits. In the 1950s, the Russian biologist Dmitry Belyaev set out to domesticate the wild silver fox. Over several generations, he selectively bred those individuals who were most likely to allow a human experimenter to approach and hand them food. After

45 years of selective breeding he got what he aimed for: a population of tame foxes, less fearful of humans and more interested in playing with them. But Belyaev also got much more than he aimed for: these tame foxes had floppier ears, curlier tails, smaller brains, higher serotonin levels, and much sharper social skills than their wild relatives. These tame foxes acquired the same package that virtually all other domesticated mammals had acquired: some desired and desirable traits and some surprises.

Belyaev's study shows that even under highly controlled laboratory conditions, artificial selection leaves a trail of unanticipated consequences, traits that come along for the ride. This link between desired and unanticipated features arises because the genes that create these features are like coupled oscillators: changes in the expression of one gene directly link to changes in the expression of others. At the level of the traits — the gene's expressions — some have no impact on survival or reproduction, while others may increase or decrease these aspects of fitness. We can illustrate this point by looking at an example from dog breeders.

Several hundred years ago, dog breeders used artificial selection to create snub-nosed breeds such as the pug, bull dog, and boxer. The idea was to satisfy our aesthetics for diminutive noses, and reduce the size of the dog's classically large protuberance. Over the course of several generations of picking the smallest-nosed members of the litter, pugs, bull dogs, and boxers emerged. But they also emerged with an unanticipated and maladaptive health problem: all of these breeds have a harder time breathing and staying cool than full-nosed or snouty dogs. No breeder would select for respiratory problems or an inability to stay cool. These traits emerged as costly byproducts of selection for a diminutive nose, and more abstractly, as a byproduct of our aesthetics. As in Tsien's experiments on memory enhanced mice, when we tamper with nature, we can cause great harm.

Research on the evolution of religion provides my second example of how to think about adaptations and byproducts. The different types of religion are like the different dog breeds: distinctive in many ways, but with a large number of shared traits in common. Most religions have a set of rules for group membership and expulsion, ritual practices, and beliefs in the supernatural. These commonalities suggest to some scholars that religion evolved to solve a particular problem, one that all humans confront. That problem is large scale cooperation among unrelated strangers, a topic I pick up in greater detail further on in this chapter. Other species cooperate, usually with a small number of individuals, mostly close kin. As the size of potential cooperators grows, and genetic relatedness among individuals within the group shrinks — adding more unfamiliar strangers to the mix — the potential risks of cooperating with a cheater increases. Religion, and its core features, evolved to diminish this risk and increase the odds of developing a society of stable cooperators. Viewed from this perspective, religion is an adaptation — in the *evolved for* sense.

For those scholars who favor the idea of religion as adaptation, supporting evidence comes from analyses of historical data together with experiments. Religious groups show higher levels of cooperation, often over longer periods of time, than many other organized, but non-religious groups. Religious groups also tend to last longer as groups than non-religious organizations or institutions. Cooperation among religious groups is often facilitated by punishment or the implication of punishment from a deity. In a study of 186 societies by the biologist Dominic Johnson, analyses showed that those who believed in a strong moralizing god, capable of doling out punishment, engaged in higher levels of cooperation, including paying taxes, complying with norms, and repaying loans. These observations are complimented by experiments showing that people are more generous about giving away their money in a bargaining game, and less likely to cheat, when they think about words associated with religion — *divine, God, spirit, sacred, prophet* — than when they think about neutral words. For example, in the dictator game, involving two anonymous players, one decides how much of a pot of money to give to the other. The recipient has no say, and is thus stuck with whatever the donor offers. In general, donors give either nothing or about half. When primed to think about religion, donors are more likely to give than keep the entire pot, and give more as well.

The implication of these results is that the religiously-minded feel that they are being watched. Cueing up words that are indicative of their religious beliefs, heightens their vigilance and their moral obligations. Religion fuels altruism and fends off the temptation to cheat.

All of the observations and experiments discussed above are fascinating and relevant to understanding the role of religion in past and present societies. But this evidence is irrelevant for understanding the evolutionary origins of religion. It is irrelevant because it can't determine whether religion originally evolved to solve the problem of large scale cooperation among strangers or whether it evolved for other reasons but was then used in the context of cooperation. This alternative explanation sees religion as an exaptation. No one doubts that religion provides social cohesion. No one doubts that religion also sends a buzzing reminder to the brain's moral conscience center. But from a description of what it does today, or even in the distant past, we can't conclude that it evolved for this purpose. That religious organizations show higher levels of cooperation than non-religious groups doesn't mean they evolved for cooperation. We also can't conclude that religion's effectiveness as social glue relies on uniquely religious psychological thoughts and emotions. Though the creation of and belief in supernatural powers may be unique to religion, other foundational beliefs and emotions are shared across different domains of knowledge: young children attribute intentions, beliefs and desires to unseen causes, including the movement of clouds and leaves; non-religious moral systems use punishment to embarrass, recruit regret, and fuel shame; like many religions, non-religious institutions also attempt to reprogram the thoughts and beliefs of its members — think of all the global rebel operatives that brainwash innocent children into becoming child soldiers. Religion helps itself to non-religious psychology. The utility of religion looks like a case of exaptation — an expression of human thoughts and emotions that originally evolved to solve problems other than cooperation, but once in place were swiftly adopted for solving problems of cooperation.

Further evidence in support of religion as exaptation comes from a follow-up to the dictator game experiment discussed above. If you swap religious words for non-religious but moral words such as *civic, duty, jury, court* and *police,* you get the same results: people give more money when thinking about these morally-pregnant, but non-religious words. It is also the case that if you paste up a photograph of eyes next to a money box for coffee, people give more than with a photograph of flowers. What these two studies show is that words and images that make us think about others, especially the possibility that others are watching, turns us into bigger spenders. These psychological transformations are not, however, specific to religion. Some may think that God is watching, but they and others may also think of a white-bearded, gavel-wielding, atheistic judge.

We learn three important lessons from the study of tameness and religion, lessons that will propel our discussion of evil. First, distinguish what something evolved for from what it is used for. Second, dissect complicated traits down into their component parts as the parts, together with their inter-dependence, may have different evolutionary histories. Third, the combination of independently evolved capacities can lead to novel adaptations and possibilities. Some combinations lead to altruistic and humane compassion toward those we don't know. Others lead to virulent hatred and annihilation of those we do know. The brain's promiscuity is a driving engine for both the good, the bad, and the ugly.

## *From the shackles of monogamy to the freedom of promiscuity*

Many years ago, some American friends of mine were married in a small village in Tanzania. After the wedding, they went to a local official who was responsible for providing a marriage certificate. On the certificate were three choices, indicative of the type of marriage: Monogamous, Polygynous, and Potentially Polygynous. My friends chuckled, but aimed their pen with confidence at Monogamous. Before they could ink the certificate, however, several Tanzanian men shouted out "NO! At least Potentially Polygynous. Give yourself the option." Right, the option. The freedom to explore.

Among social animals, only a few species pair bond for life, or at least a very long time. This fact is equally true of the social mammals: less than 5% of the 4000 or so species are strictly monogamous. For these rare species, most of their efforts to think, plan, and feel are dedicated to their partner; what's left over goes into finding food and avoiding becoming dinner. Life is much more complicated for the rest of the social animals. Their social and sexual relationships are more promiscuous, less stable and less predictable. This unpredictability is partially responsible for changes in the brain. Promiscuous mating systems demand more flexibility, creativity and out of the box thinking.

The anthropologist Steve Gaulin explored the idea that a species' mating system is directly related to its capacity to think. Gaulin started by looking at two closely related species of voles, one monogamous and the other polygynous. In the polygynous vole, males typically mate with multiple females. To achieve this kind of mating success, males have large territories that encompass many smaller female territories. In the monogamous species, the male and female share the same territory, with mating restricted to the couple. These differences in mating system and space usage have two direct consequences: relative to the monogamous male vole, the polygynous male vole must travel much further in a day than the females and must recall where the female territories are located. For a polygynous male vole, mating success depends on long day trips, visiting each of the female territories. For the monogamous male vole, there are no physical or memory challenges as the female is virtually always nearby. Given the costs to a polygynous male vole of forgetting where the females live, there should be strong selection on the memory system. Gaulin confirmed this prediction by showing that polygynous male voles outcompete females of their species in a maze running competition, and also have larger memory systems than females. In the monogamous vole, there are no sex differences in maze running or memory.

Gaulin's work provides a gorgeous example of how evolutionary pressures can act on the brain to create differences in psychological capacity. Other examples abound, including evidence that fruit eaters have larger brains than leaf eaters, primates living in large social groups have larger frontal lobes than those living in smaller groups, and bats living in open habitats have smaller brains than those living in complex closed habitats. In each case, a particular ecological or social pressure — finding ripe fruit, updating the status of numerous social relationships, avoiding obstacles while in flight — sculpts differences in brain anatomy and function. Some of these pressures favor extreme specialization and myopia, whereas others favor a broader vision. Relative to every healthy member of our species, all other animals have tunnel vision. When our ancestors began to migrate out of Africa, the diversity of environments and social opportunities favored generalists with a broad and flexible vision.

To appreciate the significance of the human revolution in brain engineering, consider three cases of myopic, but highly adaptive intelligence in other animals, cases that lack the signature of intellectual promiscuity; these cases are of particular interest because they represent the kinds of examples that caused Darwin to doubt the beneficence of God, to reflect upon the cruelty of nature, and to ponder the problem of evil:

- The wasp *Ampulex compressa* tackles a specific species of cockroach, inserts a first stinger into its body to cause leg paralysis and eliminate fighting, then a second

> stinger into the brain that causes intense auto-grooming followed by three weeks of lethargy. During this down time, the cockroach turns into a living meal for the wasp's larvae.
>
> •A Brazilian parasitoid wasp of the family *Braconidae*, lays its eggs inside a particular species of caterpillar, and once the larvae are fully developed, they hatch out of the caterpillar. Though it is strange enough for caterpillars to function like incubators, these innocent larvae were anything but innocent while developing inside the caterpillar. Once the larvae hatch, they are treated to an unprecedented level of care from the caterpillar who, Gandhi-like, foregoes all eating and moving to protect its adopted young, including violent head-swings against any intruder. The wasp has effectively brain-washed the caterpillar, hijacking its evolved instincts to care for its own young.
>
> •A solitary wasp in the genus *Sceliphron* selectively feeds on the dangerous and much larger black widow spider, using two tricks: it secretes a substance that is like Teflon, allowing it to move into a spider's web without getting stuck; next, it flails around in the web to attract the spider, and once the spider is positioned above in kill mode, the wasp launches its stinger, piercing the spider right through the brain. End of black widow. If the wasp makes the slightest mistake, end of wasp.

The capacity that has evolved in these wasps is myopically focused on one problem, and one problem alone. Despite the mind control and deception that is part of their evolved competence, they don't deploy these skills in any other context. This highly adaptive and monogamous pattern of thinking runs throughout the animal kingdom and across different contexts, including male cleaner fish that attack female cleaner fish who violate the rules of mucus-eating from their clients, but do not deploy such draconian measures in other situations; birds that feign injury to deter predators from their nest, but deceive in no other context; cheetah mothers who demonstrate to their cubs how to bring down prey, but never provide pedagogical instructions in other relevant domains of development; and monkeys that understand how to use tools generously provided by humans but never create any of their own.

Like other animals, we too are equipped with adaptive capacities that evolved to solve particular problems. Unlike other animals, however, these same adaptive specializations are readily deployed to solve novel problems, often by combining capacities. Like wasps, we deceive, manipulate and parasitize others, often cruelly. But unlike wasps, we don't use these abilities with one type of victim in one context. As long as the opportunity for personal gain is high relative to the potential cost, we are more than willing to deceive, manipulate, and parasitize lovers, competitors and family members. When we attack rule violators, not only do we do so in the context of cheaters who eat but don't pay, but also deadbeat dads who fail to care for their young, cads who have extramarital affairs, and trigger-happy murderers who take the lives of innocent people. What changes in the brain enabled us, but no other species, to engage in promiscuous thinking?

To understand what changed in the brain, it is useful to paint a few broad-stroke comparisons, and then narrow in on the details. We know, for example, that brain size changed dramatically over the course of our evolutionary history, ultimately reaching three times the size of a chimpanzee's brain with the appearance of the first modern humans some 100-200,000 years ago. From the archaeological evidence, we can infer that some aspect of the internal workings of the brain — not simply size — must have changed at about the same time in order to explain the appearance of a new material culture of tools with multiple parts and functions, musical instruments, symbolically decorated burial grounds, and cave paintings. Before this period, the material culture of our ancestors was rather uncreative, with simple tools and no symbolism. The new material culture was heralded by a mind unlike any other animal. No other animal spontaneously creates symbols, though chimpanzees and bonobos can be trained to acquire those we invent and attempt to pass on. No other animal creates musical instruments or even uses their own voice for pure pleasure. No other animal buries its dead, no less memorializes them with decorations; ants drag dead members out of their colony area and deposit them in a heap, though this is driven by hygiene as opposed to ceremonial remembrance and respect. Only a species with the capacity to combine and recombine different evolved specializations of the brain could create these archaeological remains. This period in our evolutionary history marks the birth of our promiscuous brain. The brain sciences have helped us see the fine details of this new species of mind.

The comparative anatomists Ralph Holloway, James Rilling, and Kristina Aldridge have analyzed brain scans and skull casts of humans and all of the apes: chimpanzees, bonobos, gorillas, orangutans, and gibbons. This sample represents approximately 15 million years of evolution, and includes considerable diversity in mating systems, dietary preferences, use of tools, group size, life span, locomotion style, communication system, aggressiveness, and capacity for cooperation. Thus, gibbons are monogamously pair bonded, live in small family groups in the upper canopies, swinging and singing to defend their territories, never use or create tools, are omnivorous, restrict cooperation to within the family group, and show little aggression. Gorillas are folivores or leaf eaters, live in harem societies, knuckle walk on the ground, rarely use or make tools in the wild, show aggression primarily between harems, communicate with a diversity of sounds, and show limited cooperation even under captive conditions. Chimpanzees are promiscuous, omnivores who hunt for meat on the ground and in the tree tops, create a diversity of tools that are culturally distinctive between regions, communicate with a diversity of sounds, are lethal killers when they confront individuals from a neighboring community, and are cooperative especially in competitive situations. Despite this diversity, nonhuman ape brains are much more similar to each other than any one is to a human brain. What changed since we split off from our ape cousins is both the overall geometry of the brain in terms of the relative size of different components, as well as the connections both within and between these components. Some of the most spectacular changes evolved within the frontal and temporal lobes, as well as their connections to other areas of the brain involved in the control of emotion and stress. These circuits play a critical role in decision making, self control, short-term memory, social relationships, tool use and language.

For detail, and further evidence of the importance of connectivity in promiscuous thinking, we turn to brain imaging studies of healthy adults, developing children, and patient populations that lack the signature of promiscuity. Consider tool use. Though a wide variety of nonhuman animals use tools, only humans create tools that combine different materials, have multiple functioning parts, can be used for functions other than the one originally designed, and function in the context of survival, reproduction, and leisure. These properties are the signature of a promiscuous brain. When we look at the material culture of the most sophisticated animal tool user — the chimpanzee — we see tools that use a single material, have only a single functional part, are only designed for one function, and the function set is strictly limited to survival or reproduction. Something as simple as a pencil, beyond the chimpanzees' wildest imagination, consists of multiple materials (rubber, wood, lead, metal), was designed for writing but can be used for poking or keeping hair up in a bun, and has two functional parts (lead for writing, rubber for erasing). When you put a human subject in a brain scanner and record activity during observations of tool use, what you see is an orchestrated coordination between different and connected brain regions. There is activity in regions carrying out spatial analyses, motor behavior, goal directed assessments, and object recognition, and much of this activity is fed forward to the frontal areas for storage in working memory as well as judgment and evaluation. A healthy adult brain is a heavily connected brain. Promiscuity results from a network of interconnected brain regions.

Even resting brains show signs of promiscuity. When you lie down in bed and close your eyes, but before you drift off to sleep, your brain — assuming *you* are an adult and healthy — shows activity in a family of inter-connected brain regions called the *default network*. This is your brain at rest, but it is anything but at rest. Some of the most active areas involve those that are engaged when we evaluate social relationships, consider what others believe and desire, who they are, and how we might interact in the future. This same default network looks very different in children, as well as in the elderly: it is much less connected. Growing up is connecting up. Growing old is disconnecting. We gain promiscuous thinking as we mature and lose it as we age.

If connection is key, then disorders of the mind or physical insult should result in predictable loss of promiscuity. A brain imaging study of individuals with autism is revealing. Individuals with autism fall along a spectrum, from low to high functioning. Though this spectrum captures important differences, all inflicted with this developmental disorder have difficulty understanding the beliefs, intentions and emotions of others, and often become hyper-aroused when seeing, hearing, or touching rather unremarkable objects or events. All of these capacities require a system that can integrate multiple sources of information. During brain scanning, individuals with autism show a striking reduction in activity in an area called the insula and its connection to both the somatosensory cortex and amygdala. The insula is an area of the brain that is like a traffic cop, responsible for coordinating the flow of information in the brain, both where it is coming from and where it should go. The somatosensory cortex handles our body's response to the world, including its state of arousal. The amygdala plays a key role in emotional processing, and more generally, in generating positive or negative assessments about the value of an experience. With the traffic cop asleep, and the body's arousal and emotional hubs dormant, it is no wonder that those with autism lack empathy, can't understand what it means for someone to be in love, are befuddled by deception, and find the bombardment from our media-intense world truly overwhelming. The lack of connectivity among those with autism is proof that connectivity is necessary for promiscuous thinking.

Once we evolved our massively connected, promiscuous brain, tool use, communication, mathematics, music, and morality were transformed. No longer were we constrained to think within the confines of the evolved context. We could take aspects of an ancient psychology that evolved for one problem and use it for new purposes, some beneficial to us individually and as members of a group, and some costly to our own and others' survival.

Consider our capacity to defend members within a group against attack from individuals outside the group. Many, perhaps even the majority of religious groups have carried out this mission, some with violence such as the Catholic-Protestant conflict in Ireland, and some with tranquility such as the Tibetan's plea for peace amidst a powerful Chinese oppressor. The process starts, however, with an ancient system that we share with all socially living animals. To survive and reproduce, individuals cooperate with members of their own group and defend their resources against members of neighboring groups. All animals, humans included, recognize group members by distinctive markings or recalling features associated with specific individuals. We transformed this evolutionarily ancient capacity into a distinctively human one by combining it with our systems of language, morality, and beliefs. This combination allows us to use symbols to demarcate those within our group from those outside, to tie these symbols to distinctive beliefs, values, and emotions, and to use these different psychological systems to caricature the other as buffoon, vermin, parasite, or inanimate cargo. This combinatorial process allows us to cleanse the in-group by annihilating the out-group. It allows us to increase cooperation within a group while ramping up the defenses to take out enemies living outside the group. This strategy is simple and effective. First, convince one group of people that another group has a set of undesirable traits, features that will undermine the success of the in-group. This has the effect of tightening the bonds within the group. Next, convince the in-group that those undesirable qualities make the others less-than-human and barely nonhuman. Next, make sure that the nonhuman mascot for the out-group is vile, abhorrent, and disgusting. This ingredient is critical as it guarantees that each member of the in-group will feel a surge of disgust every time it sees or hears of the out-group. Once disgust is in motion, there is only one additional step: either destroy or purge the other of its vile qualities. Destruction is not only permissible, but morally obligatory, carried out guilt-free because the mind has taken the other out of the moral domain and into the domain of property — either dispensable, controllable or transformable. Taking out the other is rewarding. Harm feels good.

Our uniquely promiscuous minds invented dehumanization, using a recipe of adaptive ingredients — defense against an enemy, disgust as a response to noxious and unhealthy substances, and creative language use. This is a dangerous idea, one I develop in chapter 3. It is one of many capacities that enabled us to uniquely imagine new ways of inflicting excessive harm on others. It is a capacity that, nonetheless, has a deep evolutionary history.

## *HARMING OTHERS, version 1.0: non-lethal behavioral routines*

All animals are motivated to secure resources that will enable them to survive and reproduce. At the most basic and universal level, this is what life is all about. Gaining access to resources enables individuals to accrue more resources, live longer, and produce more offspring. The path to acquiring resources is complicated by two facts of life that were central to Darwin's insights into the process of evolution: resources are limited and individuals must compete with others from the same and different species for these resources. Competition is the breeding ground for aggression — the most basic means of harming others. Aggression is a natural outcome of living in a social world where supper, sex, and space never come prepared on a silver platter. Here I explore the core properties of non-lethal aggression, a manner of harming others that is part of every animals' behavioral repertoire. This discussion sets the stage for understanding how evolution's R&D operation enabled a transformation of the non-lethal form of aggression into a lethal form, and ultimately, into an excessively lethal form that is the trademark of human evil. It also shows how the social norms guiding animal aggression evolved into moral norms, and thus, why we perceive some forms of aggression as deeply wrong, unethical and grotesque.

Consider life on Earth before human existence, say 10 million years ago. Our closest living relatives the chimpanzees and bonobos are living in the forests of Africa, and so too are dozens of other primates, mammals, birds, reptiles, amphibians, fish, and insects. And of course, there are animals populating every other continent and the seas that surround them. Among the social animals — those living in groups — the common form of aggression is one-on-one, and the context is typically competition over food, a place to rest, or access to a mate. Sometimes the aggression is initiated as an attack and sometimes it is in self-defense. Sometimes it is highly ritualized and planned, and sometimes it is a reactive free-for-all. Sometimes it occurs within the group and sometimes between. Severe injuries arise, but deaths are rare. The aim is to resolve a competitive dispute by means of non-lethal aggression, and if possible, non-physical contact. If someone dies it is because an injury leaves them incapacitated or vulnerable to disease. It is not because their opponent aimed to kill. The ubiquity of non-lethal aggression points to a suite of common biological ingredients, a core set of neurobiological, hormonal and psychological adaptations that constrain how animals fight.

It all starts with one individual perceiving a valuable resource that is within reaching distance of a competitor. What launches a first move and subsequently guides the process to its completion with a winner and a loser? In some species there are rules of thumb that deflate any aggressive instincts before they are launched, even though there are clear competitive interests. For example, in territorial lizards and birds, if an emigrating individual lands in an area and sees or hears another individual vigorously displaying — push-ups with colorfully flashing neck sacs in lizards, vocal arias in birds — they move on. The rule: territory owners win, no questions asked. Another rule of thumb arises in species organized around either permanent or breeding-only harems: one male and many females. Two classic cases are the well-studied hamadryas baboons of Ethiopia and the elephant seals of California. In both species, males are much larger than females, with elephant seals providing an extreme case — the harem *master* can be ten times bigger than the females he mates with. In hamadryas, no one challenges the male over access to the females in his harem. Competition arises in acquiring females into a harem, a process that starts early, with individual males recruiting juvenile females. In elephant seals, either one or a few males completely monopolize the mating among the often hundred or more females within the harem. These males rule. As evidenced by genetic fingerprinting, virtually all of the offspring are sired by 1-3 males. No mating competition. Competition arises when the young turks try to wear down the harem master through repeated challenges over the season. Eventually, often over the course of several mating seasons, the harem master loses a fight and hangs up his gloves.

Dominance hierarchies provide another set of rules or norms that guide competition, and thus aggression. In general, irrespective of the species, high ranking animals outcompete low ranking animals for access to resources. If the spread between two individuals within the hierarchy is large, the subordinate acts like a migrating lizard or bird landing in a resident's territory: no contest, no competition, no fighting. If the spread is less, say two individuals who hold adjacent positions within the hierarchy, then other factors enter into the calculation. This is where things get interesting as these *other factors* determine the start and end of a contest.

Insights into the dynamics of aggressive competition emerged in the late 1970s and early 1980s due to two fundamental developments within evolutionary biology. The first involved a marriage between economic game theory and evolutionary biology. This marriage was set up by the British evolutionary biologist John Maynard Smith who recognized that for any competitive interaction, there are different strategies, each with different payoffs. Some strategies are more costly, but return greater benefits. Others are more conservative and less costly, but return smaller benefits. How well any given strategy does depends on its frequency in the population, and thus, on whether the particular strategy is dominant or rare. For example, consider a baboon troop with 20 adult males. Imagine that one of the males decides to bare his canines, stand up on his two hind legs, and charge whenever anyone comes near him and he is eating. This male is displaying his intent to attack at the slightest provocation. One could imagine that this would be very effective, especially if he is the only one displaying in this way. But if this display pattern spreads, and all 19 other males do the same thing, then this strategy fails as it no longer distinguishes among the 20 males in the troop. What evolutionary game theory tells us is that the effectiveness of a strategy depends on how common it is within the population. Power comes, in part, from being not too common or predictable.

The second development involved signaling theory, and a challenge to the traditional approach that considered animal signals as truthful messengers of information. On the traditional view, when a monkey bares his canines, he is signaling his motivation to attack. When a dog puts his tail between his legs, he is signaling his submissive status. When a bird gives an alarm call, she is telling others that a predator is nearby. When a human smiles, he is conveying his desire for friendship. The new signaling theory presented a challenge to this honest view of communication. Why, for example, wouldn't individuals lie, deceiving others into believing that they were really tough, meek, in danger, or friendly, only to take advantage of the situation and gain added resources. Why, for example, wouldn't a baboon who was actually afraid, put on a tough-guy show and scare off his opponents? Why wouldn't a dog who was actually tough, send a submissive signal at the start of the interaction, cause his opponent to lower his guard, and then attack? Why wouldn't a bird send an alarm in the absence of danger, knowing that others will run for cover and leave all the food behind — no competition? Why wouldn't a human who actually wanted to lure in an innocent victim for robbery send a seductive smile? This line of questioning, developed by the British evolutionary biologists Richard Dawkins and John Krebs, led to a number of studies showing that animals are engaged in a much more complicated and dynamic dance when they compete. Static properties of the animal — its height, weight, tail length, antler size — indicate its raw, unfakeable ability to fight or what biologists call *Resource Holding Potential* or *RHP*. A deer with a large set of antlers has paid the costs of growth, and is thus, a serious opponent with considerable strength. A tall, heavy, long-tusked elephant bull has spent the time and energy to bulk up, and can throw this weight around in a fight. Added on to an animal's RHP are dynamic properties, features that require energetic investment in the moment such as the loudness or duration of a vocalization, or the height of a jump display. These dynamic properties form the foundation of competitive interactions, and the raw material for assessments. When a resource is up for grabs, and no simple rule of thumb or RHP factor trumps, animals assess each others' displays, working out whether to flee or escalate. What, if anything in a display, reflects the signaler's true capacity and motivation?

The Israeli evolutionary biologist Amotz Zahavi provided a simple, yet far-reaching explanation of honest signaling. Honesty, in the animal world, is simply about prediction. When a kob standing on his territorial mound charges toward another, to what extent does this display predict that he will continue the attack if the opponent doesn't flee? Is he all smoke or does the display accurately predict the follow-through? When a mantis shrimp uses his powerful claw to thump the sand at an intruder, will he go further, thumping the intruder who continues to advance? Zahavi's solution was based in economics: signals are honest if and only if they are costly to produce, where cost is relative to current condition or health. If every kob can charge even if they are blowing smoke, the charge display carries no weight. It is pure puffery and dishonest. If every mantis shrimp can thump with its appendage, and does so regardless of its current power, then sand thumping loses value. For a charging display or sand thumping to carry value, they have to be costly to produce and only those in good enough condition should be able to tolerate the costs. Numerous studies support Zahavi's insight, including work on insects, crabs, birds, and gazelles, as well as hunter-gatherers and religious institutions. Hunter-gatherers do it by showing off and sharing their large prey capture, whereas religions do it by showing their commitment to long and involved ritual displays.

The vast majority of animal competition is settled by means of non-lethal aggression. Animals adopt different strategies, use rules of thumb, and engage in assessment in order to minimize the costs of battle. This is version 1.0 of HARMING OTHERS. This version operates within every animal, humans included. Over time, some animals evolved hormonal and neural upgrades that changed how individuals experienced the thrill of victory and the agony of defeat, as well as changes in their willingness to take risks. These upgrades inched animals closer to lethal aggression, pushed some right into it, and others over the top.

## *HARMING OTHERS, version 1.1: microcontrollers*

In any competitive situation, whether it is animals working out a strategy for maximizing the odds of obtaining food or humans working out a strategy for maximizing the odds of check mating an opponent's king, someone will walk away as the winner and someone as the loser. Winning feels good and losing feels bad. Winning fuels confidence, losing lowers self-esteem. Depending on the opponent, including what they look like and whether they are familiar or unfamiliar, it is possible to gauge the likelihood of winning or losing in advance. Depending on the individual's prior history of wins and losses, and details of his or her personality, some individuals will embrace the challenge of a high risk-high payoff strategy whereas others will adopt a low-risk low payoff strategy. Winning, losing, and taking risks are all mediated by differences in hormone levels, neurochemicals, and patterns of brain activation. Some of these differences are set by the individual's biology, some change over the course of a year, some within a day, and some within the period of a brief glance that allows for an opponent to assess the competition. These physiological processes are the microcontrollers that regulate an individual's motivation to fight or flee, as well as the sense of reward and loss that accompanies winning and losing. These microcontrollers adaptively regulate the capacity to harm, at least until they malfunction. Malfunctions, whatever their cause, can convert healthy, defensive, competitive, and justifiable harms into over the top excessive and unethical harms.

One of the primary microcontrollers is the hormone testosterone. Though it is commonly assumed that testosterone is a male hormone, it is also present in females, though at lower concentrations. Testosterone plays an essential role in both sexual and aggressive behavior in all social animals. Testosterone surges when males defend their territories, and also, when they recruit sexually available females. Stronger surges occur when individuals are challenged by competitors who want their territory, food, mates, or position within a hierarchy. What this shows is that testosterone motivates animals within the arena of competition.

Testosterone also surges again after an individual wins a fight, and drops following a loss. This is highly adaptive as it motivates winners to keep defending their resources, and motivates losers to give up and minimize future costs. Across a wide variety of species, humans included, winners are two times more likely to win the next fight whereas losers are five times less likely to win the next fight. These winner-loser effects are mediated by testosterone. In our own species, among male and female athletes, in sports including soccer, tennis and judo, winners show higher testosterone levels than losers. This effect even holds in non-physical competition, such as chess and stock trading. In a study of day traders on the London Stock Exchange, those making the highest profits had the highest levels of testosterone. Even those who are simply witnesses to a winning competition show increases in testosterone, including cichlid fish spectators observing a winning fight, and soccer spectators seeing their team win the World Cup.

What many volumes of experiments reveal is that testosterone plays a fundamental role in social behavior across the animal kingdom, motivating individuals to defend their resources, acquire additional resources when possible, develop confidence following victory, and gracefully walk away following defeat. Testosterone influences behavior, and behavior influences testosterone. If an individual experiences a challenge, this causes an increase in testosterone. The increase in testosterone heightens confidence and risk-taking to defend the resources. Heightened confidence and risk-taking are often associated with winning fights. Winning fights increases testosterone, bringing us full circle to the challenges of social living.

Testosterone is joined by several other microcontrollers, including at least one additional hormone — cortisol — two neurochemicals — serotonin and dopamine — and several brain areas that are affected by these hormones and neurochemicals. Our understanding of this assemblage, beautifully synthesized by the psychologist Jack van Honk, accounts for both our adaptive and sometimes highly maladaptive capacity to harm others.

Cortisol mediates the stress response in fish, reptiles, birds, and mammals, including all ages of human mammals. When fear kicks in due to aggressive challenges from a dominant individual or from the appearance of a predator, cortisol rises. When individuals confront uncertainty, cortisol rises. When cortisol levels are high, individuals are more sensitive to punishment and more likely to avoid social interactions. Flipping the polarity around, when cortisol levels are low, individuals are more aggressive, more reward focused, and less sensitive to punishment. Testosterone and cortisol therefore play within the bodies of animals like two children sitting on opposite ends of a see-saw. When testosterone is up and cortisol is down, individuals are primed to harm others and take risks. When testosterone is down and cortisol is up, individuals are risk averse, less likely to harm and more likely to engage in friendly social behavior.

Serotonin, as noted earlier in the discussion of domestication, is primarily involved in self-control. High serotonin levels are associated with behavioral inhibition, whereas low serotonin levels are associated with disinhibition or impulsivity, as well as heightened aggression. Dopamine is linked to the experience of reward, both in terms of predicting when it will occur and in motivating behavior that maximizes the odds of obtaining the goods. When animals reach their goals or expect to obtain them, including food, mating, or winning a fight, the brain delivers a surge of dopamine. In humans, taking a drug that increases the amount of dopamine, causes people to believe that they will feel more elated about an event in the future.

Testosterone modulates these brain chemicals, suppressing serotonin in the service of heightening aggression, and ramping up dopamine to add to the already reinforcing properties of testosterone. But like dopamine, testosterone is also directly linked to the reward system. Mice will work a response lever to deliver testosterone, and humans become addicted to it. If you inject testosterone into a mouse while it is moving about, the location associated with the injection becomes tagged as a favorite spot in the landscape, a place to revisit. Drug abusers and gamblers, two personality profiles associated with heightened experience of reward and poor self-control, have elevated levels of testosterone and dopamine.

Twirling inside the brains and bodies of all social animals is a physiological ballet that controls the capacity to harm others. This choreography links harming others with the experience of reward. In some animals, the link between harm and reward was upgraded to a capacity for lethal aggression.

## *HARMING OTHERS, version 1.5: upgrade to lethal aggression*

All social animals have evolved the capacity for aggression, using it to fight members of their own species for food, land, and sex. For virtually all animals, winning a fight means chasing away or injuring a competitor, but not killing them. There are, however, three situations in which animals kill, two are broadly distributed across the animal kingdom and one is extremely rare. In virtually every taxonomic group of animals — insects, reptiles, amphibians, fish, birds, and mammals — there are predators and prey. Predators are not merely aggressive, but designed to kill prey species for the purpose of survival. Also common is infanticide, situations in which adults kill infants. Infanticide is often committed by males who have recently entered a group with infants sired by other males. By killing these infants, not only does the newcomer obliterate the competition's fitness, but he effectively reboots the female's sexual receptivity. Both predation and infanticide entail significant asymmetries in size or weaponry between attacker and victim, making the kill relatively cost-free. Rare in the animal kingdom are cases where attacker and victim are from the same species, both adults, and thus, comparable in size and weaponry. This kind of killing — call it *adulticide* — only occurs in a small number of species, but the attacks are sufficiently frequent to count as part of the repertoire: ants, lions, wolves, chimpanzees and humans. The rarity of adulticide raises important questions about the evolutionary pressures that favored this upgrade to harming others, as well as the mechanisms that evolved to make it possible.

Battles among ant colonies are notorious for their organized attacks, designed to kill the enemy and minimize costs. Watching ant colonies battle it out piques the imagination, recalling the classic face offs between British and French brigades, each side lined up in strategic formation, divided into ranks, set up to protect the land and royalty. In his book *Life in the Woods,* the American writer and nature lover Henry David Thoreau, writes that the ant battles were "deadly combat … without any noise… I never learned which party was victorious, nor the cause of the war: but I felt for the rest of that day as if I had had my feelings excited and harrowed by witnessing the struggle, the ferocity and carnage, of a human battle before my door." What is distinctive about ant battles and the deaths that ensue is that they are coordinated, with success driven by group size. As the biologist Eldridge Adams has demonstrated, bigger groups are more likely to win, more likely to kill a higher number of their smaller opponents, and less likely to incur any fatalities. Despite the similarities between ant and human battles, two differences undermine the usefulness of this analogy for understanding the evolution of lethal aggression in humans: ants are only a very distant evolutionary cousin, subject to extremely different pressures of social life, and their cooperative efforts are largely among individuals who are virtual genetic clones. When humans go to battle, cooperation is largely among unrelated individuals who are complete strangers. Of the small sample of species committing adulticide, chimpanzees are our best bet as they are closer evolutionary cousins and they join forces with kin and non-kin.

To get a sense of lethal aggression in chimpanzees, consider the following description by the anthropologist David Watts and his colleagues concerning an attack by males of the Ngogo community of Uganda (emphasized words are mine):

> [Field Assistant] G. Mbabazi found 12 adult and three adolescent males, 10 of which had participated in the boundary patrol 2 days before … in the eastern part of the Ngogo chimpanzees' territory. They started another boundary patrol by quickly and ***quietly*** moving south and then east. At 0830 hr, they moved east through a field of elephant grass (Pennisetum purpureum), then reentered the forest and went toward the spot where BT, LO, and MO [three adult male chimpanzees] had been displaying 1 day before and the area where Ngogo males had patrolled the day before that. As they reentered the forest, the Ngogo chimpanzees met chimpanzees from another community. The neighboring chimpanzees were feeding quietly on Pseudospondias microcarpa fruit in the same tree under which BT, LO, and MO had displayed. G. Mbabazi could not ascertain the precise number of chimpanzees from the neighboring group, but he saw at least two females with infants, one juvenile, and one adult male that immediately fled northeast with the Ngogo chimpanzees ***in pursuit***. The Ngogo chimpanzees caught up to the strange adult male after chasing him for about 100 m and ***surrounded him***. Adult Ngogo male EL began to pummel the intruder, and adults BF, BRU, LO, and MO quickly joined him. The strange male tried to escape down a small hill but ***could not elude these five Ngogo males and others that joined them***. The Ngogo males, led by EL, continued to ***beat, bite, and kick him for 20 min,*** and dragged him farther down this hill into a small stream valley about 50 m away from the spot of his initial capture, where ***he died during or shortly after the attack***. All of the Ngogo males remained in the area after the stranger was killed. Several circled his body and some sniffed it, while others sat nearby. …Careful inspection showed that the ***victim suffered wounds across his entire body*** … including a deep gash to the bone on the left humerus and ***a deep puncture on the left side of the thorax near the heart***. The ***only missing body part was the victim's testes***, which were recovered 50 m away, near where he was initially captured (2006, p.g., 166).

Watts' description captures several important features of adulticide in chimpanzees — both at the same field site and others throughout Africa — and in other species. The lethal attacks are explicitly proactive and planned. This is important because many cases of non-lethal aggression are reactive and impulsive, and studies of human and nonhuman aggression reveal different brain mechanisms underlying these two forms of violence. When chimpanzees attack, they use stealth to sneak up on the victim, and then relentlessly hunt them down. When they catch the victim, the attack is brutal, focused on body parts that are necessary for moving, communicating and reproducing. The attackers commonly have a numerical advantage over the victims, a ratio of at least three to one. This power imbalance reduces the costs of the attack by making it almost impossible for the victim to retaliate. Proof of this cost-benefit analysis comes from the fact that the attacking party rarely incurs injuries, whereas the victims rarely escape alive. The benefit of these attacks is that the attacking community gains access to additional resources by weakening the competitive strength of their neighbors. In a well documented case from Jane Goodall's site in Gombe, Tanzania, one chimpanzee community literally eliminated their competitors in the neighboring community, absorbing the remaining individuals and land. Though such attacks are certainly not a daily affair, they occur with sufficient frequency and benefits to create a selective advantage for the winners.

The suite of behaviors that accompany coalitionary killing in chimpanzees has led several scientists, most notably Wrangham, to argue that this form of lethal aggression in chimpanzees is an adaptation, with deep parallels to human warfare. On this view, we inherited the upgrade to version 1.5 lethal aggression.

The claim that our capacity for killing, especially in war, is an evolved adaptation, is anathema to many, scholars in the humanities and social sciences. The visceral antagonism is triggered by the belief that biological explanations imply inevitability, and provide an excuse for the atrocities we create. For these scholars, war, and more generally, the high levels of killing observed among human populations, are recent, cultural concoctions, born out of human intelligence, the invention of projectile weapons, and high population density, to name a few. From this perspective, biology plays no meaningful role in our understanding of human violence. From this perspective, killing in chimpanzees looks nothing like killing in humans. This attitude echoes the famous 1986 Seville Statement on violence in which a group of distinguished scientists, including the ethologist Robert Hinde, the geneticist John Paul Scott, and the biological anthropologist Richard Leakey, sidelined biology with the following five statements:

1. "It is scientifically incorrect to say that we have inherited a tendency to make war from our animal ancestors."
2. "It is scientifically incorrect to say that war or any other violent behaviour is genetically programmed into our human nature."
3. "It is scientifically incorrect to say that in the course of human evolution there has been a selection for aggressive behaviour more than for other kinds of behaviour."
4. "It is scientifically incorrect to say that humans have a 'violent brain'."
5. "It is scientifically incorrect to say that war is caused by 'instinct' or any single motivation."

These claims led to the rather dreamy-eyed utopian conclusion that "Just as 'wars begin in the minds of men', peace also begins in our minds. The same species who invented war is capable of inventing peace. The responsibility lies with each of us." In essence, understanding our biology will not contribute to understanding violence and war because we *invented* war as well as peace, woven out of nurture's cloth and her infinite tapestry of cultural potential. These kinds of claims about the role of biology in human behavior are at best incoherent, and at worst plain wrong. They are also dangerous because they imply a view of human nature that is infinitely plastic, unconstrained by both universal features of our biology, as well as individual differences that predispose some to extreme violence and others to extreme altruism.

What makes the Seville Statement, and other claims like it incoherent is a set of false attributions to biologists about the role of biology. Statements 2-5 are accurate in that it *is* incorrect to say that war or violence are *genetically programmed*, subject to stronger selection *than other kinds of behaviour*, built into the brain as a *violent brain*, and based on *instinct* with a single, inevitable output. But I don't know any biologists who believe statements like these. The biologist Peter Marler famously spoke of singing in birds as an *instinct to learn*, while the evolutionary psychologist Steven Pinker described the Chomskyan insight into language as the *language instinct.* A bird's instinct to learn does not mean that there is a one-to-one, inflexible mapping between genes or brain circuits and a specific type of song. All songbirds have the potential to acquire their species' song, and in some birds, such as mockingbirds and parrots, this capacity extends to acquiring the sounds of other animals and even inanimate sounds. But if there is no input at all, or if the bird is deafened, the output is deficient in structure, unrecognizable as a species-specific song. The same holds for the language instinct. Instincts are biological biases that constrain the range of potential variation. Biology differentiates songbirds from birds that don't learn their songs. This same biology allows some birds to learn one song and use it for life, and allows other birds to acquire a variety of different sounds for use in singing. The biology doesn't determine the specific content of a song. The content is determined by what the bird hears, constrained by what its bird brain and syrinx will process and reproduce. To a large extent, language is no different. Our biology allows us, but not any other species, to acquire language. This same biology sets up constraints, due in part to what our brains can keep in memory, what our ears can hear, and what our larynx can produce. Like songbirds, the specific content of what we say, whether with a French or Vietnamese accent, is determined by where we live and who we listen to.

If there is any intelligible sense of *genetically programmed* or *instinct*, whether for violence, language, sex, or mathematics, it is that our biology provides us with the capacity to acquire these domains of knowledge and expression. This doesn't mean that violence, language, sex or mathematics are inevitable or fixed in their expression. There are thousands of languages, ways of having sex, and forms of mathematical expression. There are also thousands of ways of being violent, and equally, ways of counteracting such violence. But none of this takes away from the importance of biology, especially its role in constraining the form that these expressions take in different environmental settings. To think otherwise is just wrong.

The debate about version 1.5 of lethal aggression gains interest if we restrict the conversation to the similarities and differences between chimpanzee and human killing. Similarities speak to our shared evolutionary history, including the mechanisms we inherited and the pressures that favored this form of violence. Differences speak to both changes in our biology and the environments we confronted and created.

Those who argue that the comparison between human and chimpanzee killing lacks any analytical value come from two different camps. On the one hand are anthropologists such as Robert Sussman and Brian Ferguson who suggest that chimpanzee killing is infrequent, has little benefit in terms of resources or competition, and is restricted to populations that are either artificially provisioned by humans or crowded in by us. They also suggest that the archaeological evidence for human warfare doesn't really begin until about 12,000 years ago. As Ferguson notes "To argue that war is a result of some sort of innate predisposition to wage it requires that war be practiced throughout our prehistoric past." This date, so Ferguson continues, is too recent to invoke natural selection as a cause, and leaves unexplained why there is no earlier evidence of massive killing if our last common ancestors had this capacity.

These criticisms either fly in the face of contradictory evidence or have little to do with the original ideas. Concerning chimpanzee killing, the evidence comes from multiple sites in East and West Africa, including sites with no provisioning and no crowding from humans. Further, analyses by Wrangham and his colleagues show that humans living as hunter-gatherers or subsistence farmers on the continents of Africa and South America, engage in coalitionary killing, using stealthy raids and imbalances of power to minimize the costs and maximize the benefits. Looking at 32 different small scale societies, calculations of the median death rate were between 164-595 per 100,000 per year. Looking at 9 chimpanzee communities spanning 5 populations in Tanzania, Uganda, and Ivory Coast, the rate was 69-287 per 100,000 per year. Chimpanzees fall well within the range of human hunter-gatherers and subsistence farmers. This evidence not only shows parallels between chimpanzees and human societies living under conditions most like our ancestors, but also provides a resounding rejection of the view that chimpanzee killing is infrequent and of trivial importance. If the rates of killing are comparable, then either they are trivial for both species or trivial for neither. Given that both chimpanzees and human hunter-gatherers live in small groups, killing even a few individuals can have a dramatic effect on their capacity to defend resources.

A further parallel between chimpanzees and small scale human societies comes from analyses of two extreme warring societies, the Waorani of New Zealand and the Yanomamo of Venezuela. Though violence accounts for between 40-55% of all deaths in these two groups, attackers appeared immune to injury, with no more than 5% dying in battle, and often no deaths at all. Chimpanzee attackers are likewise immune to injury, due in large part to the strategic use of imbalances of power.

The parallels between chimpanzees and humans living in small scale societies supports the idea that similar pressures favored the capacity for coalitionary killing in both species. Does this mean that each of these species should always kill in this way, and thus, as argued by Ferguson, the archaeological record should be chock full of deaths by coalitionary attackers? To argue for this position is to misunderstand the nature of an adaptation, and the arguments put forth by Wrangham as well as the evolutionary psychologists Martin Daly, Margo Wilson, and David Buss. As I discussed earlier on in this chapter, adaptations are contingent upon particular environmental circumstances. What is adaptive today need not be tomorrow. This is why it is not only unsurprising to see variation in the frequency of coalitionary killing among chimpanzee sites, among humans living in small scale societies, and among modern day humans who sometimes kill their spouses, stepchildren, and rivals, but predicted by evolutionary theory. Adaptations are economically efficient solutions to particular social or ecological problems. If those problems or pressures change, the original adaptation may have no impact on survival or a negative impact. A hiatus in the archaeological record — assuming this is the last word — is interesting with respect to the conditions that might favor or select against coalitionary killing, but in no way undermines the logic of an evolutionary adaptation, one shared by chimpanzees and humans.

The second camp arguing against the parallels between humans and chimpanzees is defended by the economist Samuel Bowles and his colleagues. Unlike the anthropologists, Bowles is entirely sympathetic to biology but sees fundamental differences in the pattern of human killing and warfare. To explain these differences he invokes two important attributes of human societies that have only weak parallels in other species: large scale cooperation with unrelated others from the same group, together with hatred, symbolic labeling, and the motivation to hurt all others outside the group. These two factors, what Bowles calls *parochial altruism*, may have paradoxically generated both greater levels of cooperation within groups and higher rates of warfare between groups. Those groups with the best cooperators acquired the greatest resources and experienced the fewest losses due to cheaters and other morally corrosive rogues. This power and inward-looking favoritism led to self-defensive emotions and behaviors, ultimately leading to lethal aggression toward those with different beliefs and values. Thus parochialism and altruism co-evolved, hand in hand, breeding prejudice as a result of group safety. This evolutionary handshake resulted in warfare and our unique capacity as killers.

Bowles' analysis is interesting and consistent with my explanation of how we evolved the capacity for evil. For both Bowles and I, certain aspects of our capacity to harm others emerges as an incidental byproduct of other capacities, and once this dynamic emerges, the combination of these capacities can evolve and change. What Bowles' analysis misses, however, is the fact that parochial altruism could well be true, and so too could our shared capacity for killing with chimpanzees. As noted above, rates of killing among chimpanzees and several small scale societies are comparable, and so too are the costs and benefits to attackers and victims. This argues in favor of a shared history, and a shared adaptation. It does not mean that all aspects of killing in humans are similar, or that the human mind froze in a chimpanzee state with regard to its capacity to kill. It most definitely did not freeze.

Unlike the lethal attacks by chimpanzees that are restricted to cases where groups attack lone victims, primarily from neighboring groups, we wreak havoc on a massive scale, with one on one, many against many, and one against many, including victims within and outside our core group. Unlike chimpanzees, even our young children have an appetite for violence that can be nurtured, as evidenced by the brutality of child soldiers around the globe. Unlike chimpanzees, individuals will sacrifice themselves for an entire group as evidenced most recently by suicide bombers in the Middle East. Unlike chimpanzees, we derive great pleasure from watching others suffer, from watching violent movies, seeing other animals fight, and imagining the decimation of an enemy. Our minds also generate ideological reasons to motivate violence at extraordinary scales — again, think of suicide bombers taking their lives for a God, as well as the reward of an idyllic afterlife. And when our minds break down, or when we are afflicted with particular disorders early in life, we are capable of experiencing bizarre appetites for violence, including the joy of eating the flesh of murdered victims, having intercourse with dead bodies, and asking for bondage and whippings to enhance sexual pleasure. These novel and unanticipated ways of harming others are the result of new hardware that has evolved only once in the history of this planet.

## *HARMING OTHERS, version 2.0: requires Homo sapiens hardware*

We depart from the pattern of adulticide seen in other animals because of our promiscuous brain. The idea is not that our brains evolved for killing in these unique ways, but rather, that our unique style of thinking led to novel ways of harming as an incidental consequence. The hardware that is our brain enabled new ways of harming others, building on specialized adaptations, some shared with other species and some uniquely human. The result is a brain that can develop a peculiar appetite for harming others.

To see how version 2.0 runs on our distinctively human hardware, let's return to some of the core microcontrollers that I discussed a few sections back. Recall that there are hormones like testosterone that surge when individuals win a competition, whether this involves the physical fighting of deer using their antlers, humans using their fists, or chess masters using their minds. Along with testosterone's increase is an increase in dopamine, a decrease in cortisol and serotonin, and a decrease in frontal lobe activity and control. Within the environment of a promiscuous brain, this physiological ballet affects our sense of fairness, empathy, moral conscience, attitude toward retribution and justice, as well our willingness to engage in lethal aggression.

Brain imaging studies reveal that the prefrontal cortex plays an essential role in regulating our aggressive instincts, when it's working. When individuals respond aggressively to an unfair offer in a bargaining game, testosterone levels rise and activity decreases in a part of the prefrontal cortex associated with self-control. Thus, testosterone's effectiveness in human aggression is facilitated by a loss of control. Damage within this region of the brain causes abnormal aggressive responses to not only direct insult, but even such trivial matters as being offered a lowish offer in the ultimatum game discussed earlier. Anatomical and functional abnormalities within this region of the frontal lobes are also associated with aggressive pathology, such as psychopathology. There are also individual differences in aggressive tendencies among healthy people, due in part to differences in the patterns of activity between the right and left prefrontal cortices. Heightened activity on the left is associated with greater sensitivity to reward, lowered sensitivity to punishment, and considerably stronger aggressive responses to threatening stimuli, such as an angry face. This is not simply a correlation, as evidenced by studies that experimentally either suppress or increase activity in one hemisphere compared with the other. For example, if you contract your right hand you will increase activity in the left hemisphere of the brain; conversely, contracting the left hand increases activity in the right hemisphere. Subjects contracting the right hand in an experimental setting showed more aggressive responses to insult than did subjects contracting the left hand. The next time someone shakes a fist at you, check whether it is the right or left hand. If the person is from a different group and holds a fundamentally different suite of ideological beliefs, which hand is clenched is the least of your worries.

Favoritism toward those who are like us, combined with hatred toward those who are not, is common in animals. As noted above, in-group favoritism or parochialism can lead to heightened levels of cooperation within groups, while simultaneously increasing the level of hostility towards those outside. Our promiscuous brain facilitated this co-evolutionary process, inviting the hormone oxytocin into the mix. Among mammals, including humans, oxytocin is released in females during labor and breastfeeding, and in both males and females during social bonding and parenting. This has led many to think of oxytocin as the cuddle hormone or love drug. Floating within the human brain, oxytocin boosts trust in games of cooperation, and greatly increases our ethnocentric biases. The Dutch psychologist Carsten De Dreu and his colleagues ran a series of experiments that required male subjects to spray oxytocin or a control up their noses. When oxytocin shoots up the nose, it goes straight to the brain. Relative to the control group, those who sniffed oxytocin perceived in-group members as more likeable, more human, more richly endowed with social emotions such as embarrassment, contempt, humiliation and admiration, and more worthy of saving in an emergency. Oxytocin increases our sense of camaraderie toward those within the inner sanctum, which can result in greater animosity toward those outside. Oxytocin may therefore facilitate our ability to take out the competition even if this means killing another human being. Oxytocin is two-faced, cuddling with its left profile and harming with its right.

This is a small sampling of the ways in which our promiscuous brain enables new forms of harm, including killing other adults. We didn't invent lethal aggression. We share this capacity with a small group of animals that also kill other adults. But whereas these other species typically restrict their lethal attacks to situations in which one group greatly outnumbers another, typically targeting adults from a neighboring group, we evolved far beyond this monogamous approach. We adopted the cost-benefit analysis that drives killing in other animals and applied it to killing in a virtually limitless space of homicidal opportunities. We kill when we outnumber our opponents or are outnumbered by them, attacking individuals within and outside our core group. We kill spouses, ex-lovers, stepchildren, those who believe in God and those who don't, the wealthy and the poor, kin and non-kin, and even ourselves if the cause is good enough. Virtually anything goes.

Our promiscuous brains opened a Pandora's box of harmful means, including the capacity to address a multitude of injustices. This is a capacity that is inherently good, but incidentally bad. It is a capacity that evolved in response to growing pressures to balance inequities and take care of those who attempt to cheat society. It is a capacity that enabled us to engage in punishment in a broad range of contexts, righting wrongs and opening a new path to feeling good about harming others.

## *Incidental justice*

Cooperation is ubiquitous in the animal kingdom, occurring in a wide range of situations. Humans are no exception. Like ants, humans also bring resources to their queen — think England. Like scrub jays, humans work with extended family members to rear the next generation of offspring — think Mormons. Like dolphins, human males form super-coalitions to gain access to females — think the Yanomami Indians of South America, where men raid neighboring villages to take their women. And like chimpanzees, humans cooperate to monitor their borders, often capturing and killing intruders — think Palestine and Israel. But human cooperation is distinctive in two ways: we frequently cooperate with large numbers of genetically unrelated strangers, and punish those who cheat by free-riding on others' good will.

The challenge to any cooperative enterprise is to avoid getting suckered by free-riders who cheat and add little or no help. As group size grows, the opportunity to cheat and get away with it grows as well given the challenges of storing information about reputation. How do individuals and groups avoid this sucker problem?

When nonhuman animals cooperate with members of the same species, they typically target kin. Helping kin provides a buffer against the sucker's costs because investing in kin means investing in genetic posterity. Helping relatives, even at a cost, translates to helping ones genes move on into the next generation — an insight developed by the British evolutionary biologist William D. Hamilton. When cooperation involves unrelated others, nonhuman animals attempt to circumvent the sucker's problem by working with a small number of familiar others whose reputation is known, targeting contexts where all participants benefit more from working cooperatively than working alone. These mutual benefits help offset the costs of cooperation.

By restricting cooperation to relatives or small numbers of unrelated but familiar group members, animal societies have buffered themselves from extreme cheating. This is significant because cheaters arise in a variety of contexts where there are rules of engagement, including both cooperative and non-cooperative situations. For example, both lions and chimpanzees cooperate in group defense against dangerous neighbors. Some individuals cheat by lagging behind, or failing to join in altogether. In societies organized around hierarchies, low ranking animals sometimes cheat by attempting to eat more than their fare share or by reproducing when their societal norms explicitly forbid it. Interestingly, cheaters in cooperative situations such as those in lions and chimpanzees, never suffer any adverse consequences from the dominants. In contrast, cheaters in competitive situations such as those that arise in hierarchical societies, are punished. Nonhuman animals thus have the capacity to recognize and change rule breakers. And yet, these capacities are not applied in the context of cooperative interactions. Monogamous thinking rules.

When it comes to enforcing fairness in cooperation, the fundamental barrier for animals lies with the economics of punishment. Punishment is costly. When a cheater is detected and attacked, there is always the possibility that he will retaliate. Cheaters, even when caught, need not surrender without a fight. Punishment therefore requires the capacity to surmount an immediate cost, while recognizing the possibility that any benefit could be greatly delayed. For example, lashing out against a lion laggard or a chimpanzee cheater might cause each to join in on future cooperative ventures, but this is a delayed benefit, and it may never materialize. This adds another potential opportunity cost. As Shakespeare so deftly noted "Defer no time, delays have dangerous ends."

Waiting for a future benefit, whatever its currency, is hard for all animals, humans included. Studies of rats, birds, monkeys, apes, human children and adults show that individuals perceive future gains as less valuable than immediate, but smaller gains. For example, give any one of these animals a choice between one piece of food and ten, and they will pick the ten. More is better than less, except if you are a dieting human. Now give them a choice between one piece available immediately and ten pieces available after some delay. Virtually every animal shifts to the one piece, with the only comparative difference linked to the length of the delay — a few seconds for rats, birds, most monkeys, young children, and adults with frontal lobe damage, a few minutes for some apes, older children and some adults. Everyone is, to some extent, pulled by the hedonistic now. The future loses its luster when a tasty alternative is just within reach. This is in part due to the uncertainty associated with the future, and in part, the sheer temptation to take what is in front of us.

Unique evolutionary changes in the human brain allowed us to exert much greater patience, overriding the pull of the hedonistic now. These changes didn't evolve *for* punishment, but they were readily deployed by this system of justice. We rely on creative strategies to place value on the future, including putting resources away so that we can't use them — think savings accounts — and making verbal commitments that bind us to the future — think about the social embarrassment of failing in front of friends. These strategies help diminish the emotional pull of taking what is immediately available, allowing future benefits to gain in attractiveness. This is a brain that can wait for the delayed benefits of punishment.

The brain changes that facilitated our capacity to delay gratification were accompanied by others that further offset the costs of punishment: our brains reward us with a feel-good feeling when we pay the costs of punishment. For the first time in evolutionary history, the physical and psychological costs of punishment were at least partially offset by the pleasure of justice served, whether delivered directly or witnessed from afar.

When we punish or get even with those who have acted badly, we feel a hedonic high, an experience captured by the metaphor "revenge is sweet but not fattening." As demonstrated by the economist Ernst Fehr, this is more than a metaphor. When we hand someone his just deserts, punishing someone for cheating, lying, or breaking a promise, our brain responds as if we handed ourselves just desserts, activating brain circuitry associated with reward. In one study, two subjects played a monetary exchange game in which one player — the donor — decided how much of a pot of money to give to another. A third player observed, out of view, the outcome of the exchange. In some cases, observers witnessed a fair division of the money and in other cases, an unfair division in which the donor kept a disproportionate amount of the total. The observer then faced a difficult decision: leave the two players with their take-home earnings or use personal funds to take away money from the donor, returning it to the bank. Taking money away from the donor is a form of costly punishment. It is costly in two ways: the punisher loses money he could have kept, and the donor loses money that he unfairly kept in his previous exchange.

When donors kept a significantly larger portion of the original sum, observers punished, paying the costs. They also reported feeling good about taking down the cheapskates. Where was this honey hit to the brain coming from?

To figure this out, Fehr and his colleagues put people in a brain scanner and used a technique called Positron Emission Tomography or PET. This type of scanning provides a picture of how much glucose is used up by different brain areas during a task. Higher glucose consumption occurs when there is higher activity in a brain region. When punishers decided to punish a selfish donor, glucose consumption increased in a region of the brain associated with reward: the dorsal striatum. This region is also active when you eat ice cream, earn money, and solve an unexpected problem. Punishers incurred a financial cost, but gained emotional elation and internal reward. It turns out that giving someone his just deserts feels like eating dessert, but without the caloric gain.

When distinctively promiscuous punishment evolved, it transformed our capacity to cooperate and to maintain conformity to social norms. It provided us with the tools to not only repair a puncture in the system of norms, but to feel good about the costs personally incurred. When we punish, we have served justice and served ourselves a helping of the brain's rewards. The fossil record doesn't capture when we evolved the capacity to punish, as skulls and bones, stone tools, and even paintings are silent on why someone received a spear through the head — perhaps punished for a wrong doing or perhaps an enemy, a competitor interested in the same resources, or a suspected lover. No one will ever know. What we do know is that other primates never punish cheaters who break the norms of cooperation, whereas hunter-gatherers dotting the continents do. Though people living today as hunter-gatherers are not perfect replicas of what life was like way back when, they indicate that before we had sophisticated technology, agriculture, and permanent residences, we had the capacity to minimize the costs of the sucker's problem. Whenever this capacity emerged in human evolution, it provided a critical part of the solution to the problem of large-scale cooperation among unrelated strangers. With many eyes on the look out for cheaters, and a capacity to take out or ostracize the free riders, cooperation emerged as a stable solution to problems that are unsolvable at an individual level, including group defense and the acquisition of costly resources. Punishment enabled humans to live in large, stable cooperative societies, many of whom are unrelated strangers.

This momentous event in the history of cooperation carried with it a serious cost, bringing aggression and reward into closer proximity, with the costs of attacking others overshadowed by the benefits. As I discuss in greater detail in the next chapter, this economic transformation created, as an incidental consequence, a hunger to watch violence and to see it as entertainment. It allowed our feelings of inequity and envy to morph into schadenfreude, retaliation, and spite. It allowed us to enjoy violence as perpetrators and spectators. It allowed us to put our money on feeling good about righting an injustice.

## *Why oh why?*

*Why* did evil, expressed as excessive harm to innocent others, evolve? The answer lies, so I suggest, in a special property of the human brain. Some time after we diverged from a chimpanzee-like common ancestor, the human brain was remodeled to allow promiscuous connections between previously unconnected circuits. Promiscuity enabled us to explore new problems using a combination of older, but nonetheless adaptive parts. Some of these novel explorations led to highly adaptive consequences, as when we developed the ability to self-deceive in the service of pumping ourselves up to do better in the context of competition; or when we invented new technologies to solve difficult environmental problems, such as using spears to capture prey at a distance; or, when we acquired the know-how to stockpile and enhance resources such as food, water and fertile land that are critical to individual survival and reproduction; or when we evolved the richly textured social emotions of jealousy, shame, guilt, elation, and empathy, feelings that motivate individuals to recognize the importance of others' well-being and interests and to correct prior wrongs; or, when we tapped into the rich connection between reward and aggression to punish cheaters trying to destabilize a cooperative society. But these same adaptive explorations also resulted in incidental costs that have destroyed the lives of innocent individuals. The capacity to deny others' moral worth enabled us to justify great harms, including self-sacrifice as living bombs designed to annihilate thousands of non-believers. The capacity to create advanced weaponry enabled us to kill at a distance, thereby avoiding the aversiveness of taking out those staring back. The capacity to stockpile resources led to the growth of greed, increasing disparities among members of society, the inspiration to steal, and heightened violence both to defend and to obtain. The capacity to experience social emotions such as jealousy led to blind rage and a driving engine of homicide, including cuckolded lovers who kill their spouses and stepparents who kill their stepchildren. The capacity to feel good about harming others enabled us to recruit this elixir in the service of causing excessive harm in any number of novel contexts, from ethnic cleansings to bizarre fetishes that include self-mutilation. And the list goes on. This is the yin and yang of promiscuous thinking. This is the natural history of evil, its ancestry and adaptive significance. This evolutionary explanation sets the stage for unpacking the recipe for evil, how it develops within individuals and societies, ingredient by ingredient.

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# Chapter 2: Runaway desire

> The desire of being believed, or the desire of persuading, of leading and directing other people, seems to be one of the strongest of all of our desires.
>
> — ***Adam Smith***

In 1999, an investment officer in a management firm had a gut feeling that something was wrong in a corner of the securities market. Based on calculations from the stated investment strategy for the fund, the returns were not only orbiting outside the financial stratosphere, but were mathematically impossible. The officer contacted the Securities and Exchange Commission, outlined the problem, and asked them to look into it. No reply. Year after year, the officer continued to contact the SEC about this case, explaining that it was potentially lethal, that he had no personal investments in the fund, and had never been an employee. No reply. Then, in 2007, he sent the SEC a 17-page report, showing why there was only one plausible conclusion: the stated strategy for the fund was a fraudulent cover up for a massive money-making scheme. Eventually, in 2008, the brains behind this scheme was ousted, escorted to a life in prison as number 61727-054, and welcomed to his new home by a community of like-minded white-collar criminals.

Meet HARRY MARKOPOLOS — the investment officer — MADOFF SECURITIES — the seductive investment opportunity — and BERNARD MADOFF — the genius behind one of the most spectacular Ponzi schemes in recorded history. Whistleblowers started warning the SEC as early as 1992, but no one listened. Madoff was making money hand over fist by pocketing new investments and if needed, using some of these to pay off individuals wishing to redeem their funds. Ponzi schemes work as long as new investments exceed the number of investors wishing to redeem their own investments. And for Madoff, this balancing act worked for 16 years. Then, as in the Bible's Book of Joshua, the walls came tumbling down, with Jericho riding in to hand Madoff a 150-year prison term for the financial murder of his trusting clients. Altogether, these innocent and trusting people lost approximately $65 billion dollars, all because one man allowed his desire for wealth and power to run out of control. Or so it seemed.

Were those who put their money in Madoff securities entirely innocent? Or, like Madoff, did they too allow their desire for more wealth to run wild? Was Madoff's desire for extreme wealth that far off the curve of human variation? And if he was off, who or what do we blame? Could some quirky feature of Madoff's genome, together with the brain states it orchestrates, have pushed him over the edge into a universe of unreasonable and even irrational desires? Does it matter that Madoff grew up in a world in which the rich get richer despite the direct or indirect harm caused to innocent others?

Many have speculated answers to these questions, based on little or no evidence, and certainly no scientific evidence. But what matters most about case studies such as this is that they raise the kinds of questions that science can answer. What matters is that it is possible to run a Ponzi scheme. It is possible because there are humans like Madoff who are driven by the desire to accumulate great wealth, despite the personal risks and costs to others. It is possible because the world is populated by people who are willing to throw critical reasoning to the wind in the face of a tempting offer to make a huge amount of money. It is possible because people will take risks either without considering the potentially horrific consequences to innocent others, or by trivializing them.

As far as we know, Madoff never intended to put his friends and family members in a state of financial ruin. As far as we know, many invested in his securities knowing that investments can fail. As far as we know, some must have been suspicious, at least for a while, about how their investments could consistently yield such over the top returns when nothing else has or seemingly could. Madoff is certainly to blame for creating a fraudulent investment opportunity, but so too are the many who trusted him without question, happy to make absurdly high returns.

Did Madoff cause excessive harm? Yes. Were those harmed innocent victims? Not entirely. None were forced to invest, and all invested with at least some knowledge that the promised returns were off the charts. This is not innocence. This is desire run amuck while self-control and reason fly standby. Madoff was morally wrong, but not evil, at least not on my accounting of the ingredients of evil.

Madoff's case illustrates the power of desire to stampede reason. As the essayist James Thurber remarked, "Love is blind, but desire just doesn't give a good goddamn." Madoff didn't give a good goddamn. How does a system like this get going, and then sometimes go wrong, very wrong? It all starts with the elements of pleasure.

## *P for pleasure*

Imagine that scientists have just announced the discovery of a center in the brain that manages our experience of pleasure. Imagine further that they have invented a consumer device that, for only $49.99, enables you to ramp up or down the activity in the pleasure center. Want to get a bit more out of your dinner, a movie, tennis stroke, work, or sex? Flip the switch. Want to buffer yourself from the pain of ostracism, a romantic break up, or a colonoscopy? Flip the switch. Would you buy it? If so, what would you use it for, and would you be a habitual user? Would you worry about any side effects? Might using this device become addictive, or worse, either destroy the feeling of pleasure altogether or push you into a never-ending quest for satisfaction, with each dollop of pleasure leaving you wanting a bigger dollop next time around. This may seem like science fiction, but it's closer to non-fiction.

Over fifty years ago, scientists working with rats, implanted electrodes into in a region of the brain called the nucleus accumbens. The electrodes were connected to a switch. If the rat pressed the switch, it activated the electrode and thus stimulated this brain area. The rats indeed pressed, over and over again, some at a rate of 2000 presses per hour, with no external reward or threat of punishment. Pressing the switch was the reward, or at least the vehicle to what appeared to be the experience of reward. Pressing the switch was addictive. These scientists had discovered a critical part of the circuitry of pleasure, in rats! The rats discovered a pleasure switch, something they wanted to experience over and over and over again.

Soon after this discovery, clinicians started using deep brain stimulation to treat individuals with neurological complications, including Parkinson's patients suffering from loss of motor control, patients experiencing sustained pain, Tourette's patients suffering from motor tics and obsessive-compulsive problems, and even a patient in a coma who had lost, but then slowly recovered the capacity to name and grasp objects. Similar to the rat work, the technique involves implanting an electrical pulse generator within a targeted brain region. When the generator is turned on, it stimulates activity in previously malfunctioning regions. But as with genetic manipulations and the unknown space that characterizes the genomic universe, so too is the situation unchartered in the neuronal universe. Two patients suffering from chronic pain were implanted with impulse generators and subsequently developed profound *addictions* to the stimulation. In addition to relatively successful pain reduction, both patients experienced an enhanced desire for sex, including erotic feelings. One of these patients self-stimulated so often that she forgot to wash, change clothes, and adhere to family commitments. What happened? Did the clinicians treating these patients hit the pleasure center? When stimulated, what actually changed in the minds of these patients? Did they simply *want* more sexual arousal, suggesting that stimulation turned up the gain on their desire for sex? Or, did stimulation change what they *like*, a shift in the sense of pleasure that accompanies sex, and in this case, the anticipation of sex? Or perhaps it changed both wanting and liking, especially since we often want things we like?

These observations of how humans and rats respond to brain stimulation show that particular areas of the brain are linked to pleasure, especially the motivation to obtain rewarding experiences. These observations also reveal that when these areas are activated, they can result in addictive, uncontrollable behaviors that are toxic to self and others. They suggest that areas of the brain associated with desire can run out of control. But to understand how the brain motivates us to *want* some things but not others, how it creates the experience of *liking*, and how it enables us to want things we like by *learning* about the world, we must turn to experiments on nonhuman animals, brain scans of healthy humans, the mechanics of mind-altering drugs, conscious and unconscious influences on our choices, and the sad stories of individuals with uncontrollable urges to eat, drink, snort, shoot up, and gamble. This is the evidence that scientists, especially the American cognitive neuroscientist Kent Berridge, have gathered to explain the three core elements of pleasure: wanting, liking, and learning.

Often, but not always, the experiences we want or desire are the experiences we like. Often, but not always, the experiences we like are rewarding and good for our health. Often, but not always, we are aware of the experiences we like, and make rational plans to experience them again. Often, but not always, our rational plans to experience what we like makes us happy. Often, but not always, we find ways to maintain our happiness by using self-control to moderate our exposure to pleasurable experiences. The *often* refrain refers to the fact that the systems involved in wanting, liking, and learning work in this way most of the time. The *but not always* refrain is a tip off to exceptions that speak to interesting aspects of the machinery. For example, though we most often want things we like, we can want things we don't like and like things we don't want. I want to lift weights, do push-ups and sit-ups to stay fit, but I don't really like doing any of these exercises. I like the Porsche Boxster sportscar, but don't want one because it is a gas guzzling environmental nightmare and inconveniently small for a family car. The fact that wanting and liking can mount a unified front or conflict with each other shows that it is important to look at the glue between them, which is learning. Learning allows us to work out our values, setting up a preference profile for what we desire in the people we interact with, the places we visit, the objects we handle, and the events we experience. Learning allows us to predict situations that generate pleasure or pain. Though we are conscious of many of these processes, and can actively influence them, unconscious processes are also at work. These systems of the brain link us to our evolutionary past, and to animals without language but clearly expressed likes and dislikes.

Evolution has endowed all animals with unconscious wanting systems — brain circuitry that motivates individuals to seek resources that enable survival and reproduction. For young mammals, still dependent upon parental care, their desires are simple: milk and warmth from their mothers, and depending on the species, additional warmth and protection from fathers; for the record, the human father is an oddity among primates, as no other ape and virtually no other monkeys express a paternal instinct. With growth and independence, desires shift to other resources that can satisfy hunger and thirst, accompanied by sexual and social status desires. Though driven by unconscious operations, the behaviors that result are often strategic, dependent upon changes in climate, other competitors, who happens to be in a bad mood, and who is sexually active. In a variety of species, from dung beetles to deer, biologists have developed mathematical models that accurately predict how long an individual should wait for a sexual partner or feed in a food patch. The accuracy of these models shows that individuals' desires for resources linked to survival and reproduction are captured by lawful principles or rules. This is important because it means we understand how the machine underlying behavior works. It means we understand how animals make certain choices.

Understanding how wanting works is straightforward. In both humans and nonhuman animals, we can measure what individuals approach when we give them a choice, as well as how much effort they are willing to exert while approaching and gaining access to a particular object or experience. For example, in studies that explore whether captive animals are provided with sufficient housing conditions, an experimenter presents individuals with a choice of rooms, one consisting of the typical housing environment and the others by the addition of goods believed to be of interest. To enter a given room requires opening a door. To determine how much an individual really wants what is in another room, the experimenter ramped up the difficulty of opening each door. In studies of captive hens and mongoose, individuals exerted considerable effort to open some doors but not others. Hens rammed into doors opening onto a chipped wood floor, whereas mongoose did the same for a pool of water. These are items they want, but do not get in captivity.

What about liking? It may seem, at first blush, that because liking is a subjective experience, that there are no clear objective ways to measure it. My likes are my own. You can't possibly know what it is like to be me. If you can't know what it is like to be me, then we can't possibly know what it is like to be a mongoose, mouse or monkey. There are, however, ways of measuring liking and disliking that are reliable, objective, and consistent across species. In many animals, including human babies who can't speak and human adults who have lost this capacity due to brain injury, there are distinctive behaviors that are consistently linked to positive experiences and others linked to negative ones. For example, in mice, monkeys, and human babies, tasting something sweet like sugar causes a lot of lip licking, whereas tasting something bitter such as quinine causes mouth gaping, nose twitching, and arm flailing. These similarities show that evolution has been conservative, maintaining the same underlying mechanisms for handling likes and dislikes. These similarities have enabled scientists to understand how the brain systems involved in wanting and liking can change together or separately, even though they can't help us understand the harder problem of what, in particular, it is like for a given mouse, monkey or man to like something.

To understand the machinery that drives rodent wants or desire, Susana Peciña and Kent Berridge took advantage of the genetic technique that Joe Tsien —mentioned in the last chapter — used to create smart mice. Recall that Tsien jazzed up a gene's expression to improve memory and learning. In contrast, Peciña and Berridge quieted a gene that controls the amount of dopamine floating around in between neurons. With this gene silenced, dopamine levels increased. Compared with normal mice, these dopamine-plus mice consumed twice as much food and water, and learned much faster where food was located within a maze. But when it came to measuring licking as liking, the dopamine-plus mice were no different from normal mice. Dopamine is therefore essential for the wanting system, but not the liking system. This conclusion has been supported by many other studies, of mice and men, in the context of eating and drug addiction — two topics that I will shortly revisit.

To understand what rodents like, Peciña and Berridge injected an opioid drug — similar to opium from poppy plants — into two brain regions associated with reward — the nucleus accumbens and the ventral pallidum. Not only have studies of rodents, monkeys, and humans revealed that these areas are associated with reward — recall the brain stimulation studies — but they contain sub-regions known as *hedonic hotspots* — zones tuned to particular kinds of stimulation, designed to jazz up the liking element of pleasure. Following injection, individuals licked four times more often in response to sugar as the non-injected individuals, but did not show a difference in wanting. The opioid injections also caused a decrease in the aversiveness of bitter quinine, as evidenced by a decrease in mouth gaping. Turning on these hedonic hotspot ramped up the pleasure of sweets, and diminished the displeasure from bitters. Together, the Pecina and Berridge studies highlight the independence of wanting and liking, and the ways in which the brain — or a clever experimenter playing with it — regulates the elements of pleasure.

How does the brain figure out what's hot and what's not, delicious or disgusting? It's one thing to desire a particular experience, and another to derive pleasure from the experience. But the world is not set up with labels that indicate which objects and events are pleasurable and which distasteful. Every object and event has particular properties that, depending on the animal's sensory ability, can be seen, heard, tasted, smelled, or touched. For all organisms, there are receptors within each of the sensory modalities that are biased to prefer some things over others. This is why no human baby has to be taught to dislike bitter things and like sweet things. From the very first encounter, sugary solutions trigger tongue protrusions and licking, whereas bitter solutions trigger a gaping mouth. We have evolved, as have other animals, sensory systems that are tuned to prefer some things and dislike others, right from the start. These initial biases guide the learning process, facilitating acquisition of new knowledge in some cases, making it almost impossible in others, and setting a course to self-destruction in yet others. Try teaching a young child that the taste of sweet chocolate is disgusting while the taste of bitter endives is delicious. Try teaching cocaine addicts to turn off the magnetic pull of white powder, or convincing alcoholics that the clinking sound of ice in a glass isn't meaningful. Try teaching rogue soldiers involved in genocide that the parasitic enemy shouldn’t be exterminated. This is where scientific explanation gains considerable interest, helping us understand how we develop anticipatory pleasures and past-oriented regrets, struggle to change from habitual rewards, and acquire irrational desires for experiences we no longer enjoy — a problem that appears to maintain most forms of addiction.

Humans go to restaurants and bees to flowers because both are associated with food. Within these broad categories, there are good restaurants and flowers, as well as bad ones, where good and bad are determined by experience. The experience can be direct, as when food is actually consumed, or indirect as when humans listen to an animated friend describe a restaurant’s menu and bees watch a hive mate dance, providing a description of the flower’s location and quality. Once the association between food and location is established, simply seeing the restaurant or flower triggers a cascade of neural and chemical activity in the brain linked to reward and the anticipation of pleasure. The restaurant and flower are cues that predict food. If you walked into your favorite restaurant and found that they sold fertilizer rather than food, you would be heartbroken. If you haven’t been to the restaurant in a long time, but memorialized your previous experience as a gastronomic high, you will be deeply disappointed if your first bite doesn’t live up to the standards you anticipated. This mismatch between anticipated and experienced reward will lead to a cascade of brain activity — indicative of an error. The primary engine driving the experience of reward, including predicting when it will occur and with what kind of intensity, is the dopaminergic system, a network of brain areas that releases dopamine in most invertebrates and vertebrates, including the human vertebrate.

Many natural behaviors trigger dopamine, including male songbirds singing to attract females, rhesus monkeys seeing a red light that has been associated with a soon to be delivered shot of juice, and humans cooperating with each other. Many unnatural behaviors and objects can also trigger dopamine. Animals trained to press a switch for food, will often become obsessively attracted to the switch, caressing and biting it even in the absence of food; humans with addictions to cigarettes, food and gambling, will often obsessively fondle an empty cigarette carton, fork, and deck of cards, respectively. But these correlations leave open the question of whether dopamine causes the anticipation or experience of reward, or flows from these experiences.

To tackle the causality problem requires experiments, either directly changing dopamine concentration or comparing individuals who, due to genetic differences, show differences in dopamine levels. We know from studies of rodents and monkeys that selectively increasing dopamine with drugs results in heightened wanting of food if there are cues to foraging, or sex if opportunity knocks. The Israelian cognitive neuroscientist Tali Sharot pursued a similar approach with healthy humans subjects. She first asked individuals to rate how happy they would be if they vacationed in 80 possible destinations. Then, some subjects took a placebo while others took L-dopa, a drug that selectively increases the release of dopamine. Later, these same subjects imagined what it would be like to actually vacation in these places, and rated their imagined experience. Those on L-dopa felt they would be much happier, revealing the power of dopamine to cause changes in our experience of reward. Complimenting these experimental results are studies showing that genetic variation in the expression of dopamine in humans are closely tied to impulsive behaviors and behavioral disorders. Thus, individuals with genetic variants that result in higher levels of dopamine are more likely to engage in compulsive gambling and eating, leading to addictions. The anticipation of heightened pleasure leads these gamblers, eaters, and abusers to want more and more.

This work shows that dopamine is necessary for monitoring and guiding our desire for reward, with evidence of individual differences that start with our biology. This is a highly adaptive system. But changes in dopamine can also cause our desire for reward to runaway, like a brakeless trolley. This is a highly maladaptive process. This flip between adaptive and maladaptive that we see within the dopaminergic system is, by now, a familiar brain routine. It provides, I believe, the means to explain all manners of excess, from the desire for food and money to drugs and violence.

Obesity and drug addiction are disorders of excess. They are disorders of insatiable desire. There are many paths to obesity and addiction, but all ultimately point to changes in the reward system. In humans born with deficient levels of the hormone leptin, overeating and obesity are common outcomes. When these individuals view images of food during a brain scanning session, they show *lower* levels of activity in the striatum than non-leptin deficient individuals. The striatum is an area that is rich in dopamine and an essential part of the reward system. This may, at first, seem paradoxical: how could those who eat to excess not show an excess of activity in the striatum, and thus, an over-the-top experience of reward upon seeing food? The answer lies in studies of rodents and humans. Whether it is obese rats or obese people, both show compulsive eating, but lower levels of expression of dopamine in the striatum. If you silence a key dopamine gene in rats, you can quickly turn them into food junkies, driven by an unsatisfied wanting system. Overeating, like over-drugging, turns the reward dial down. This is an adaptive response, except when it operates in the mind of a food or drug junky. Though the reward hits are small and unnoticeable, the wanting system remains highly motivated, triggered by the same cues. What food and drug junkies want is more hits, but the reward system isn't delivering. This causes them to want even more.

What the work on obesity and addiction tell us is that independently of how people get started on the path to fulfilling their desires, and whatever leads them to over-consume, consumption loses its luster. The brain is smart: excess is bad and thus the reward systems turns off. But because the wanting or desire system is independent from the reward system, and has evolved insurance against a complete shut down, it continues to drive desire. Because the reward system isn't delivering the goods, excess unfolds driven by a wanting system that is looking for pleasure in all the wrong places.

When we were hunters and gatherers, excess was an unborn concept. We lived on the edge then, enjoying scraps of whatever kill arrived on the fireplace, together with the tubers gathered up on the day. We, at least many of us in the West, live in a world that has a 24/7 cafeteria of food and drugs. It is a want it-have it culture. As work in molecular biology shows, and as I will pick up in chapter 4, some of us start off more vulnerable than others, susceptible to sampling from the cafeteria at all hours of the day and night. The combination of a heavily marketed environment and a biological susceptibility to excess, is a losing combination for the consumer.

The work on addiction provides a template for thinking about how individuals and societies ignite a path to excessive harms. In the same way that excessive eating gets going and going out of control when the dopamine system drives an irrational desire to want more and more food that is liked less and less, so too is excessive harm often driven by a similar decoupling between wants and likes. Individuals start with a desire to acquire wealth, to physically harm those who are unlike them, or taste the sweetness of revenge against someone who acted unfairly. These desires are often linked to an experience of pleasure or the anticipation of pleasure. But as such actions and their consequences accumulate, the pleasure derived diminishes, as money is acquired just for the sake of having more, while individuals are injured, maimed, or killed because this is the policy that must be pursued. Liking is no longer part of the equation, leaving cold desire to do its work at the expense of innocent others who get in the way.

To develop this idea, and especially the link to excessive harm, I have to fill in a missing piece in our discussion of desire. Everything I have discussed in this section has focused on individuals and their core corporal needs for survival — or in the case of drugs, recreation. I haven't said a word about how desire works in the social arena, whether the same systems are in play when we compare our own desires and resources with others, or with other opportunities. When desire is motivated by what others have or have achieved, are the same processes in play as when we eat, drink, or gamble? These are important questions as the desire to accumulate great wealth or to harm others is often motivated by comparison shopping, assessing what others have relative to our own status. The most primal starting point for comparison shopping is the world of hierarchies, a world where the desire to dominate rules.

### *Power hungry*

Whether you are observing a social insect, fish, lizard, bird, rat, whale, monkey, or human, males are bigger and bolder, more boisterous, brash and brazen, and more motivated to get into a brawl than females. Though biologists don't define the sexes based on these differences, they use them to understand what drives competition for valuable resources and what determines the criteria for dominance status. Biologists define the sexes based on differences in the gonads, the reproductive organs that generate eggs and sperm, and the corresponding effects of sex-specific selection on the mind, body, and behavior. Females are those with larger, more costly gonads, where cost is defined on the basis of how much energy is invested in production. Think eggs versus sperm. This difference sets up an immediate competition, especially for species that have parental care. Once you invest in a big expensive egg, you don't want to lose your investment. You want to protect it, avoiding harm and minimizing risk. On the other hand, if your investment is small, you are not only freer to take risks, but favored to do so.

These ideas started with Charles Darwin. One hundred years later, they were developed in exquisite detail by the American evolutionary biologist Robert Trivers. Combined, they provide an explanation for why, in most species including our own, males compete with each other for access to females — the most valuable and limited resource — and why females are picky, expressing an aesthetic preference for males of a particular quality. Selection favors parts of the body and brain associated with dominant males and picky females. Dominant males win fights against other males, and thus gain access to females. Dominant males take risks and are more aggressive. Picky females hold out for the best males, those who provide the most desirable resources. Picky females are patient, waiting for males with good genes, access to prime real estate, and the protective skills and motivation to defend them and their young. These are qualities linked to high status. These are qualities associated with the ability to obtain and control resources. These are the qualities that females desire.

Male desire for dominance is therefore nurtured by female desire for dominant males. Like appetites, these desires seek satisfaction. Like appetitive addictions that create devastating consequences for individuals, groups and nations, so too can our appetite for domination.

Recall from the last chapter that testosterone and cortisol play a teeter-totter role in aggressive competition. When testosterone is high and cortisol is low, the motivation to fight and defend one's resources is high. These two hormones, and the brain areas they impact, fuel the desire to maintain a competitive edge. Recall further that winners experience an increase in testosterone, and losers a decrease, and that testosterone is addictive. Testosterone is therefore part of the system that links the desire to outcompete and gain dominance status with the rewarding experience of winning and achieving high rank.

To attain high rank, including a competitive advantage over others with respect to food and mating opportunities, requires social knowledge. How tough is the alpha baboon or boss in a company, and what kind of support do they have from other individuals in the group? How sexually receptive are females when their hormonal cycles tilt them into a period of potential conception? What other males are interested in these females? Attaining and maintaining high rank also requires attention to cues that are continuously changing, including where someone is looking and parts of the body that signal power and sexual availability. The American neuroscientist Michael Platt carried out a clever series of experiments to understand how much male rhesus monkeys value different kinds of social information and how much they will pay to obtain it. As in our discussion of wanting and liking, Platt rightly assumed that rhesus monkeys would value most what they like most, and that they would pay the highest price for what they are most motivated to acquire.

Each monkey watched a slide show with viewing options akin to pay-per-view television. On a given trial, they could watch one of two images for as long as they liked, each viewing option associated with a particular amount of juice. For each pair of images, one delivered more juice than the other. Given that these were thirsty monkeys , they should prefer more juice over less juice. If monkeys have no interest in the images per se — because they have no value — then their viewing preferences should be strictly determined by where they can get the most juice. If, on the other hand, the images have value, and some images are more valuable than others, then they may be willing to look at an image that delivers less juice over an image that delivers more. This is costly viewing. This is paying for watching. Evidence for such preferences would reveal that rhesus monkeys value the social information that comes from the image over the juice itself, a surprising result given that juice is a primary reward whereas the image is only a secondary reward, indicative of things to come.

Consistently, these male monkeys had two favorite channels, preferring those showing pictures of high ranking individuals and close-ups of female hindquarters. They preferred these over images of low ranking individuals, despite the fact that this choice often cost them the opportunity to drink more juice.

Platt's findings show that monkeys are motivated to acquire information about socially relevant situations, including information about dominance and sex. Their motivation or desire to obtain this information is high, as evidenced by the fact that they are willing to pay a cost. Keeping an eye on a dominant is of value as dominants pose a threat, especially one staring at you. Keeping an eye on a female's hindquarters is also of value as it can signal sexual receptivity: in rhesus monkeys, as in many other monkeys and apes, the area around the vagina either swells, turns red, or both when females are ovulating. This is important information for males in their attempts to court and mate females. I will quickly pass over the potential implication of these results for thinking about the origins of pornography.

Humans also value social information, with many hours in a day devoted to obtaining such information through gossip. Many of us live in a world where dominance matters, whether it is climbing to the top of a corporate chain or attaining the title of heavyweight champion of the world. Individuals seek high status because of the physical and health benefits that accrue. In such societies, our sense of self is based on our comparison with others. It is also based on a strong sense of independence, autonomy, assertiveness, and uniqueness. In other societies, the self dissolves into the other, with an emphasis on inter-dependence, commonness, and openness to change in response to authority. These differences in self-perception show up when we attend to faces of familiar individuals. Chinese subjects, representative of a collectivistic and inter-dependent society, responded more quickly to seeing their boss's face than seeing their own face. In contrast, American subjects responded more quickly to their own face than to any other person's face, including that of their boss. Like Platt's monkeys, therefore, we too place value on social information. Unlike Platt's monkeys, our sense of value in the social domain is modulated by our cultural upbringing. This modulation, and the brain states that accompany it, shows up in direct comparisons of individuals who are motivated to attain high dominance status with those who are motivated to create equality.

The American social psychologist Joan Chiao used survey information to establish two groups of individuals based on those who preferred to live in an egalitarian society and those who preferred a hierarchical society. These individuals then entered a brain scanner and viewed pictures of people experiencing pain. Two areas, both associated with the personal experience of pain and the perception of pain in others, were highly active. But these areas were less active in those who preferred hierarchies than those who preferred egalitarianism. This finding, as Chiao notes, is consistent with the idea that in an egalitarian society, empathy for others well-being is essential. In egalitarian societies, seeing someone who has less or is being harmed by another, should motivate a desire to redress the imbalance and reduce the harm. In a dog-eat-dog hierarchical society, where dominants outcompete subordinates and inequities are part of life, concern for those at the bottom is a sign of weakness. These results show how cultural influences can shape brain activity, leading some to develop deep desires for dominance and inequities, whereas others develop deep desires for equality. These brain areas heighten our sensitivity to what others have, what we desire, and how our desires are modulated by what others have. These comparisons motivate us to improve our status either by working harder — a good thing — or taking down those above us — a bad thing.

### *I'll have what she's having*

One of the most famous lines in movie history was delivered by Estelle Reiner in *When Harry Met Sally,* a comedy produced by her son Rob Reiner. While Estelle is seated at a table in a delicatessen, Sally — played by Meg Ryan — fakes having an orgasm to show Harry — played by Billy Crystal — that he can't tell the difference between fakes and the real deal. Overhearing Ryan's performance, Estelle turns to the waiter and says "I'll have what she's having." This is comparative shopping, cashing in on someone else's subjective experience to guide our chosen experiences.

Orgasms and eating are two of the great pleasures in life, whether you live in Tokyo, Toronto, Toulouse, Tehran or Timbuktu? I doubt any healthy human adult would debate this. What can be debated is what counts as the ultimate orgasm or food experience. It can be debated both among friends and inside our own minds, influenced by personal experience and our knowledge of what else is available, or might be.

Consider potato chips. As a snack, potato chips generate a revenue in the United States of about $6-7 billion dollars each year, relying on the slicing and frying of about 2 billion pounds of potatoes. These facts make clear that most Americans love potato chips, and are motivated to consume them. Like other salty snacks, it is hard to eat just one. The American psychologist Carey Morewedge and his collaborators ran an experiment to find out how much people love potato chips, and whether their anticipated fondness for this delicious crisp changes in the face of other options. Subjects sat at a table in front of a bowl of potato chips and an alternative food that was visible, but out of reach. The alternative was either a highly undesirable snack such as sardines, or a highly desirable one such as Godiva chocolate. After subjects contemplated what it would be like to eat each of these foods, they then rated how much they would enjoy them. This is like the study I described in the pleasure section where subjects rated how much they would enjoy different vacation destinations, but without the comparison between one clearly good and one clearly bad spot. Both focus on the anticipation of a pleasurable experience.

Subjects' ratings of potato chip deliciousness soared when sardines were on offer, and plummeted in the presence of chocolate. Context matters. What is clearly delicious when there is nothing else on the table, loses or gains in deliciousness when the table fills up with other delectable or disgusting alternatives.

What's happening to our pleasure detector, and especially our anticipated reward system, in the potato chip experiment? Are we incapable of understanding what makes us happy, unable to figure out what is or is not delicious, or are we fickle? What Morewedge's experiment reveals is that deliciousness, like ugliness, stubbornness, and obsequiousness, is a judgment, judgments are always relative or comparative, and as such, based on some standard that is either present in the moment, stored away in our memories, or anticipated in the future. When Estelle Reiner uttered her famous line, she was using Meg Ryan's orgasmic expression of delight as a comparative metric. When we compare food items or wine or pretty faces or sporty cars, we recruit our brain's resources, especially the circuitry involved in attention, emotion and memory. Whether we say that potato chips are the best snack, or better than sardines, we have made a comparison that requires our attention, our capacity to keep at least two items in memory, and a way of emotionally tagging each of the items. This comparison-shopping taxes our mental resources, recruiting them away from the job of evaluating one snack, and leading to a distorted evaluation of desirability.

Morewedge's experiments point to a mismatch between how delicious something is and how delicious we think it will be, or how delicious we thought it was. It reveals a distortion in our capacity to anticipate — or *forecast* in the words of the American social psychologist Daniel Gilbert — how we will feel, and in particular, how much we will like the experience. This is a problem for the elements of pleasure that I laid out earlier in this chapter, as we expect the system that links wanting and liking to be well honed, even optimized to make sure that we really want things we really like. Is this distortion something to expect across the board, independently of context, or is it specific to our food? Is the social domain similarly vulnerable to a distorted view of anticipated pleasure?

Consider revenge. When someone transgresses over the borders of social norms, either harming us or those we care about, we often seek revenge, motivated to even things up. We often imagine that revenge will make us feel better, providing a honey hit to the brain that will satisfy our desire to redress an imbalance. But is this the outcome we consistently achieve when we follow through on a plot of revenge or, as Sir Frances Bacon noted over three hundred years ago, might "A man that studieth revenge, keeps his own wounds green, which otherwise would heal, and do well." In more modern and plain English, might our desire for revenge inoculate us against healing, creating an illusion that we will feel better? If so, revenge looks like an addictive process, with wanting unhinged from liking.

The American psychologist Kevin Carlsmith set up an experimental game that allowed each subject within a group to contribute money to a public good. At the end of one round, the bank multiplied the total by a pre-determined amount, divided this total by the number of players, and then redistributed this amount to each player. In this game, the best for each player in the group is to contribute to the common pot because this maximized the returns. However, the best strategy for an individual is to defect, holding on to the initial endowment while reaping the rewards of everyone else's generous contributions. Those who opt out of cooperation in a public good situation stand to benefit, especially in a world with no punishment.

Carlsmith created an experimental world of punishment for some players, but not all, and then explored how punishment contributed to a subject's feelings. Some could pay to punish, some witnessed the consequence of another's punitive act, and some had no exposure to a game involving punishment.

When given the opportunity to punish the defector, most people punished. Everyone, both punishers and non-punishers alike, expected punishment to feel good. They were wrong. Both punishers and those who witnessed punishment felt worse, with the act of punishment compounding the bad feelings. The fact that the witnesses felt worse, as opposed to better, may seem at odds with our experience of schadenfreude, of enjoying another's misery. Shouldn't the witnesses have rejoiced upon discovering that the offenders were slapped with a punitive fine? In our own personal experience with schadenfreude, as well as in studies that I will explore in a few sections, witnesses learn of a misfortune that happens to another but this news has no direct bearing on the witness. In Carlsmith's experiments, the witnesses learn of a misfortune, but the offender's defection has a direct bearing on the witness in terms of money lost. Thus, although punishment may feel good, the benefit may not make up for the lost income.

Everyone in Carlsmith's experiments also believed that punishment would cause people to think less about the offender. They were wrong again. Punishers, but not those who simply witnessed punishment, ruminated more about the selfish offenders. Rumination led to more bad feelings. These bad feelings led to more rumination, giving birth to a vicious cycle of feeling bad and ruminating about those who cheated them of some money. Rumination heightened the comparative difference in resources.

Carlsmith's findings are paradoxical and disturbing. Paradoxically, they suggest that in some situations, our expectations about the feeling of punishing an immoral act are inverted from the feelings we feel following punishment: rather than feeling a happy high, we feel a depressing low, often accompanied by increasing anger. In the context of punishing a free-rider who stiffed the group, everyone expects to feel a tingle of delicious delight, but many end up feeling angry instead. The entire polarity of the emotion has switched, with rumination and anger dominating our thoughts. This is a dangerous state to enter. Faced with the strong belief and desire that revenge should feel good, but lacking any confirmation, we are moved to find new evidence. With anger at the helm, there is only one solution: escalate the level of punishment, and continue to do so until it feels good. This is precisely the pattern I described above for obesity: the wanting system continues to search for liking and reward, but fails, and thus continues. Whether it is an unsatisfied desire for food or revenge, the unfortunate consequence is an escalation to excess. Evil isn't far behind, fueled by a variety of situations in which we fail to obtain what we want.

### *The great leveler*

We are often envious of those who have what we desire, whether it is good looks, money, a warm supportive family, or a better tennis stroke. Envy can motivate us to change our looks, find careers that will improve our finances, seek relationships that will provide additional support, and pick up a few extra tennis lessons to win the next match. Unfortunately, envy can quickly turn, as desire and a deep sense of inferiority transform into insatiable cravings to acquire whatever is necessary to gain superiority. Envy thus wears two masks, one benign and inspirational, the other malignant and destructive. As the writer Dorothy Sayers noted, envy "is the great leveler; if it cannot level things up, it will level them down."

Envy emerges out of our sense of fairness, fueled by competition. It is part and parcel of a hierarchical society. When we envy someone, we have detected a difference or inequity between our own condition and that of another. We want what someone else has, presumably because we like what they have. Wanting and liking are in harmony. Recognition of the inequity fuels competition to redress the imbalance. This sense of fairness appears early in child development, changing in systematic ways as a function of a culture's norms.

The Swiss economist Ernst Fehr, who led the brain imaging studies of punishment and reward discussed in Chapter 1, assembled a team of developmental psychologists to test for evidence of fairness in young children ages 3-8 years old. Fehr was especially interested in when children recognize a disparity or inequity in the distribution of resources, and what they are willing to do, if anything, to redress the imbalance. The experimenter paired up each child with a partner of the same age who was either from the same school or a different school; the school distinction was set up to look at in-group versus out-group differences which, as discussed in chapter 1, can lead parochial altruism — the paradoxical result of greater cooperation among group members and greater hatred and violence toward those outside. Though each child knew about their partner's age and school affiliation, they never saw their partner. Each child therefore knew only that they were playing with *someone* from their school or *someone* unfamiliar to them.

Each child played three different games. In each game, the experimenter told one child to decide how to distribute a fixed amount of candy. In the *prosocial* game, the decider either takes one candy and gives one to the partner or takes one candy and gives nothing to the partner. If children are sensitive to inequities and want to share in order to make things fair, they should pick the 1-1 option; picking the 1-0 option doesn't affect the decider, but dings the partner. In the *envy* game, the decider has a choice between 1-1 and 1-2. As in the prosocial game, the decider gets the same amount of candy with both options, but preserves equity with 1-1. Picking 1-1 also reveals that the child has an aversion to others having more, even when there is no personal cost. In the third, *sharing* game, the decider has a choice between 1-1 and 2-0. Here again, the decider gets candy in both cases, but the 2-0 option tempts the desire for more, both personally and relatively. On the one hand, a greedy child will want more candy, and so 2 wins over 1. But picking the 2-0 option also leads to a greater difference with the partner, while robbing them of an opportunity for any candy. If fairness prevails, deciders should pick 1-1. If selfishness prevails, motivated by competition, they should pick 2-0.

Across all three games, there was an increasing tendency from age 3 to 8 years old for children to pick the fair distribution (1-1). Across all ages and games, children were most likely to pick the fair distribution when playing against familiar than unfamiliar schoolmates. What these results reveal, together with many other similar studies, is that children are sensitive to the distribution of goods at an early age, but with important developmental changes in play. There is a tendency for children to both recognize inequities early in life, but to act selfishly when possible. The envy game shows this beautifully. When another child could receive more, children rejected this option even though it wouldn't cost them directly: the decider always gets just one candy. Though no one has yet worked out what causes a developmental shift from more to less selfishness, most agree that it is driven by maturation of brain regions guiding self-control, together with social factors that make young children increasingly aware of and sensitive to their own and others' reputations. Fehr's studies also show that playing fair is not just about the distribution of resources, but about who gets them. Early in life, children have already carved up the world into those they know and those they don't. This division drives their thinking and feeling, and in cases like this, their sense of fairness. Young children are well on their way to developing parochial altruism.

Fehr's research, and the majority of studies on the child's developing sense of fairness, focus on children living in large-scale Western societies. Most of the work on fairness in adults is similarly focused on large scale societies. The precise structure of these societies may directly impact how individuals decide when to share, what commodities enter into the distribution, and whether sharing depends on effort invested, needs, and power. As noted in the last section, those who support an egalitarian society are more likely to feel empathy toward those in pain than those who support a hierarchical society. Individuals who are more empathic are also more altruistic. Hunter-gatherer societies tend to be more egalitarian, and highly cooperative. These differences predict further differences in how those living in small-scale societies, including the hunter-gatherers and subsistence farmers of Africa, Asia, and South America, should respond to unfair exchanges.

The American anthropologist Joseph Henrich and his colleagues presented a set of bargaining games to adults living in different small-scale societies across the globe. Though the subjects in this study played a number of different games, the basic goal was similar to those deployed by Fehr in his studies of children and adults: under what conditions will individuals choose to share an equal as opposed to an unequal distribution of resources?

Consider the ultimatum game. One individual decides how to distribute a fixed amount of money to an anonymous partner; in the Henrich games, he always used the local currency and an amount that was appropriate for the society. The partner had two options: keep what is on offer or reject it. Rejection is costly to both players as they leave empty handed. Rejection is both an expression of sour grapes for what could have been — a fair offer — and punishment for selfish behavior. In large scale societies, offers typically range from 40-50% of the initial pot, and rejections are common for offers less than about 20%.

Across the globe, most people in these small scale societies offered some amount of the initial pot. Across the globe, most people rejected really low offers. This shows the universal signature of fairness: an expectation of sharing resources and a no-tolerance view of greed. Cultures differed with respect to how much they shared and whether they rejected. Some societies offered, on average, close to 40%, while others offered as little as 15%. Some societies accepted virtually all offers, whereas others rejected both low and even high offers. Even in more egalitarian societies, therefore, there is sensitivity to unequal distributions. Even in egalitarian societies, there is a willingness to punish those who act unfairly, greedily taking more than their fair share.

The work I have discussed on fairness is only a fraction of the growing body of scientific evidence. What this research reveals is that a sense of fairness is part of human nature, appearing early in development, but guided by experience toward a particular cultural form. When our desire for fairness or equity combines with our competitive drive, envy often follows. Studies of the brain show how envy is generated from this combination.

When healthy subjects sit in a brain scanner and learn about other individuals who have what they desire, there is considerable activity in the anterior cingulate, and more activity in those who feel more envious. This is not the envy center of the brain. There is no such area. But the recruitment of the anterior cingulate in other social situations helps us understand what is going on more generally in the case of envy. The anterior cingulate activates when we experience pain from social exclusion, but not when we witness such pain in others. It is one of the areas that was activated in Chiao's work on the differences in pain empathy for those supporting either an egalitarian or hierarchical society. The anterior cingulate is also involved when our minds are pulled in two different directions, a situation that arises when we are forced to choose between two conflicting moral options — for example, a duty to save the lives of many versus the prohibition of killing one person to save the lives of many. There is a common thread here that unites these different experiences. Like our experience of social exclusion, envy is also a form of social pain and to some, deeply painful, as it reveals a sense of deficiency in acquiring resources. Envy also represents a situation in which our positive sense of self conflicts with the negative sense of self engendered by social comparison. Our brain — and the anterior cingulate in particular — informs us that we are less accomplished when compared with others. Envy is socially imposed pain generated by comparison shopping.

Envy highlights what we don't have, which fuels the system of desire, which seeks satisfaction. Unsatisfied, envy runs wild. Unsatisfied, wanting keeps hunting for pleasure. Schadenfreude delivers some prey.

### *O Schadenfreude*

On February 15, 1978, a relatively unknown boxer with few professional fights, stepped into the Las Vegas boxing ring and snatched the world heavyweight champion title from Muhammad Ali. Ali, along with his entourage of managers, coaches and fans were shocked, though no one denied that he lost. The unknown boxer was Leon Spinks. His only prior claim to fame, and ticket to a shot at Ali, was an Olympic gold medal two years earlier. With this win, not only did Spinks enjoy the heavyweight belt of champions, but a cash prize of $350,000 and a promise of $3.8 million for the rematch with Ali. But this meteoric rise to the top fizzled into a meteoric crash, driven by women, alcohol, sports cars, and a lack of training. Leon Spinks, aka "Neon Leon," was living the fast life, and rapidly losing his status as a respected sports hero.

Moments before his rematch with Ali, he cruised the streets of New Orleans on top of a limousine while smoking a joint. He was flaunting his nonchalance, making fun of Ali's age, and carrying on about his ability to take the old champ without a single work out. When he entered the ring, Ali was ready. Though the match went the full fifteen rounds, it was no contest. Ali won.

Newspaper writers and boxing fans celebrated the return of their champion, and mocked the downfall of an ephemeral, arrogant, and out of control hero. After losing to Ali in the rematch, Neon Leon crashed further, losing all of his earnings, taking on odd jobs for minimum wage, losing a son in a gang fight, and suffering defeat after defeat in the boxing arena. From envied millionaire sports star to bankrupt fool and the laughingstock of the boxing world.

When the envied fall down, we perversely enjoy the knock out. This is schadenfreude, a German word that describes the joy we feel in witnessing another's misfortune. Though the emotion is universally understood, recognized in our written records at least as far back as Aristotle, the German language is one of the few to capture the feeling by tapping the brain's promiscuity, combining the word for harm (*schaden*) with the word for joy (*freude*). Like envy, schadenfreude is a social, comparative emotion. It erupts when those we envy fall down, when someone we dislike meets his comeuppance, and when a misfortune is deserved. But like envy, schadenfreude presents two faces, one elevating and virtuous, the other deflating and divisive. We should feel good when a person is caught crossing a moral line, committing an injustice. Such feelings not only reinforce our own adherence to moral norms, but encourage us to punish those who transgress. Such feelings instill courage in the service of expressing moral outrage. As Robert F. Kennedy stated "Moral courage is a rarer commodity than bravery in battle or intelligence." Schadenfreude in this positive sense is the inner voice of moral courage. At the same time, it can also be the inner voice of moral disengagement, providing justification for an observed harm.

When this happens, our promiscuous brain has worked its combinatorial magic, causing us to feel good when we witness someone else's misfortune.

Schadenfreude, like envy, causes us to self-evaluate, looking inside of ourselves to assess our net worth relative to others. We know from a large body of studies, several carried out by the American social psychologist Roy Baumeister, that when an individual's sense of self-worth is threatened, especially those individuals with more narcissistic and overly confident personalities, aggression often follows. The more personally threatened we feel, the more pleasure we should feel when someone else suffers. The Dutch psychologist Wilco van Dijk tested this idea with two simple experiments. In both experiments, subjects filled out a questionnaire that they believed evaluated their intellectual strengths. Upon completion and scoring of the questionnaire, some were told that they had utterly flopped, scoring in the lowest 10% of all subjects, while others were told that they performed brilliantly, scoring in the upper 10%. Next, all subjects read a scenario in which someone suffers a misfortune. For example, in one scenario, a student rents an expensive car to show off at a party, but then drives the car into a river, not only damaging the car but requiring the fire department to tow it out. Those whose sense of self-worth was threatened by the abominable test score were more likely to say that they felt good about the misfortune, including smirks and laughter in response to the show off who submerged his rented car. These results powerfully show that schadenfreude serves the beneficial function of hoisting our own self-worth. When our self-worth has been challenged, for whatever reason, we feel better knowing that someone else is worse off, regardless of context or direct relevance.

Our desire to see others suffer so that we may feel better can escalate to absurd levels, especially when it is fueled by ideology. Beliefs can blind us to the cost-benefit analysis, motivating us to see harm done to those outside of our inner sanctum even if it hurts us as well. Religious and political ideologies are two of the hotspots that can drive entirely irrational desires and absurd attributions.

The American psychologist Richard Smith explored whether an individual's political convictions influenced the intensity of schadenfreude when witnessing a member of another party suffer, including cases where society at large also suffers. Smith initiated the study prior to the US Presidential elections in 2004 involving Republican George W. Bush and Democrat John Kerry; during this period, the Republicans controlled both executive branches of the government. Each subject — all college undergraduates — provided information about party affiliation and strength of support for the policies and beliefs of their party. Next, every subject read and provided reactions to short newspaper articles describing tragicomic moments for the two candidates, one in which Bush fell off his bicycle while riding, and the other involving Kerry wearing a bizarre space outfit during a visit to NASA. Last, subjects read and reacted to an article describing job losses and the economic downturn facing the nation — an article meant to capture an objective cost to all members of society, irrespective of party affiliation.

Unsurprisingly, Democrats expressed more pleasure from reading about Bush's bicycle accident, whereas Republicans were more joyful over Kerry's bizarre space suit. Surprisingly, Democrats also expressed pleasure from reading about the economic downturn, and more pleasure than the Republicans who were more likely to express negative feelings about this situation. Thus, despite the fact that the economic downturn hurt everyone, the Democrats expressed pleasure over the added damage this inflicted on the Republicans — who they held responsible — and conversely, the added benefit it brought to the Democrats who could wag their fingers.

In a second study, Smith found that Democrats experienced more schadenfreude than Republicans over the number of casualties reported out of the Iraq war, even though Iraqis were certainly not preferentially targeting Republicans. The pleasure they experienced was entirely driven by the fact that this was a war sponsored by a Republican government, and thus, the fatalities could be blamed on the Republicans. From a Democrat's perspective, even though everyone loses when soldiers die in war, it is a bigger loss for Republicans, and thus, a bigger gain for Democrats. With schadenfreude, it is all about comparative shopping. It is all about satisfying our desires relative to others.

As noted above, schadenfreude appears to emerge strongly when an individual's misfortune is deserved. To explore what is happening in the brain when such pleasure is experienced, and the situations that might trigger it, the German cognitive neuroscientist Tania Singer set up a study involving healthy men and women. In the first phase, subjects played a bargaining game for money against an unfamiliar partner; prior to the game, and unbeknownst to the subject, Singer set things up so that the partner played either fairly or unfairly. After the game, each subject entered a scanner, and watched their partner receive a painful shock to the hand.

Predictably, Singer discovered that both men and women liked the fair players better than the unfair players, and showed more empathy to fair players when they were shocked. Proof of empathy was read off the images of brain activation, especially the brain circuitry known to be involved in pain empathy, and mentioned earlier in my discussion of Joan Chiao's work on social hierarchies: the insula and anterior cingulate. Unpredictably, Singer discovered that the level of activity in this pain empathy circuitry was reduced when men — but not women — saw unfair players receive pain. She also observed that in men — but not women — there was increased activity in the nucleus accumbens — an area mentioned earlier on that, in rats, monkeys and humans is consistently associated with the experience of reward and liking. The more individual men desired revenge for an unfair offer, the more activity they showed in this reward area.

Singer's findings are joined by many others showing that the nucleus accumbens, together with other reward areas, are activated in a wide variety of situations in which we gain from others' pain. But because these same areas also respond to non-social, non-comparative experiences, such as eating, we come back to a critical point in this chapter: areas that evolved for one function are readily recruited for others, especially in a promiscuous brain like ours. As long as something makes us feel good, whether it is winning, eating, social comparison, or harming another, the reward areas of the brain turn on.

Schadenfreude is one of the mind's ambassadors, enabling us to journey from a state of inferiority to superiority. It enables "imaginary revenge" in the words of German philosopher Friedrich Nietzsche. Like envy, it is highly adaptive, focusing our attention on inequities. Like envy, it is also maladaptive, rewarding us when the inequity is not only addressed, but results in another's failure and misery. If failure is associated with violence, including death, so be it. The brain is poised to inspire our desire to harm or witness harm in order to feel good.

## *An appetite for violence*

Billions of people, perhaps all humans, have had vivid fantasies about sex, violence, or sexual violence. Are these fantasies like food fantasies, cravings that need to be satisfied? Or, as some theories would have it, are sexual and violent fantasies satisfying on their own, playing a cathartic role, releasing energy and thus, reducing the need to act out?

Seung-Hui Cho was born in South Korea and then moved to the United States with his parents. During his first three years in college, both students and professors in his literature and theatre courses described his writings as disturbing and disgusting, and his actions toward other students as ominous and frightening. One professor noted that his creative pieces "seemed very angry," while another demanded that he be removed from the class. A classmate noted that his plays were "really morbid and grotesque…I remember one of them very well. It was about a son who hated his stepfather. In the play, the boy threw a chainsaw around and hammers at him. But the play ended with the boy violently suffocating the father with a Rice Krispy treat." Cho was advised to seek counseling. He didn't. No one followed up. A professor aware of his often inappropriate comments and behavior contacted members of the administration. No response. Several women alerted the campus police after Cho stalked them. No disciplinary action was taken despite his repeated offenses. As in the SEC's tin ear to the alarms surrounding Madoff's dubious securities, so too was everyone at Cho's university deaf to his alarming behavior in class and out.

During his senior year, Cho wrote an essay describing his anger toward rich kids, the unfairness of life, and his own misery. He also described a revenge fantasy, packed with images of retaliation toward those who had what he lacked. He sent his reflections along with excessively violent photographs and videotapes to the New York headquarters of NBC news. Under a photograph of bullets he provided the caption "All the [shit] you've given me, right back at you with hollow points."

On April 16, 2007, Cho dressed up in army fatigues. He left his dormitory and killed 32 people and wounded 25 others with a semi-automatic Glock 19 pistol filled with hollow-point bullets, designed to cause more tissue damage than traditional bullets. Cho then shot himself in the temple, ending his life and the Virginia Tech massacre.

Cho's case provides a horrifying example of how fantasies of violence can lead to real life enactments and a trail of blood. It also provides a counter-example of the catharsis view: Cho's fantasies about violent revenge did not make him feel better. It made him feel worse and more violent — a pattern supported by dozens of studies.

Normally raised children as young as seven years old are more likely to act aggressively toward their peers if they are self-absorbed in a world of aggressive fantasy, and this is especially the case for children who witnessed violence or were subjected to it. Adult men and women are more likely to crave violence after reading an argument in favor of the cathartic magic of violent fantasies than after reading a manifesto against catharsis. Men who engage in aggressive sexual fantasies are more likely to engage in aggression, but only if they are narcissists. Men who engage in deviant sexual fantasies are more likely to enact these fantasies, but only if they exhibit signs of psychopathy. Psychopathy and narcissism are like Siamese twins, inseparable. What these studies show is that those who are self-absorbed and play with violent or sexual fantasies, are most likely to take these imaginary worlds onto the real world stage.

Further evidence of the connection between violent fantasies and violent actions comes from studies by the German psychologist Thomas Elbert who studied child soldiers brainwashed into joining the ranks of the Lord's Resistance Army, Northern Uganda's rebel group. Since its inception in 1987, the LRA has recruited 25-65,000 children, starting with boys and girls as young as 10-12 years old. In detailed interviews and analyses of now retired child soldiers, Elbert discovered that those who had more experience with killing developed stronger, appetite-driven fantasies of killing, a hunger that had to be fulfilled by real killing. As one ex-child soldier noted "The more we killed, the more we acquired a taste for it. If you are allowed to act out this lust it will never let you go again. You could see the lust in our greed popping eyes. [...] It was an unprecedented pleasure for everyone." Not only was fantasy converted into killing, but the more they killed, the less they experienced any trauma in later life. Unlike the droves of veterans who have been returning from Iraq and Afghanistan, and suffer from post-traumatic stress disorder or PTSD, these child soldiers developed an immunity. Many of the veterans from Iraq and Afghanistan had no interest in killing, and deemed the war unnecessary. In contrast, these child soldiers were brain washed into believing that killing was necessary, and a sign of importance. Killing that is justified is rewarding, whether the justification is real or the product of self-deception. When self-deception joins the fray — as I further develop in chapter 3 — killing is not only rewarding but virtuous.

Cho's case is not the exception, but the rule: persistent fantasies, whether sexual, violent, or sexually violent, are often played out in real life. When people voice their fantasies, we should open our ears. When therapists, especially those influenced by the catharsis view of the mind, encourage their patients to engage in aggressive fantasies to release their pent up energy, we should bring forward malpractice suits as they are accomplices to crime.

What kind of mind is most likely to rev up the fantasy world to supersonic levels and then unleash it in the service of excessive harm? Lust murderers — individuals with a craving for the bizarre and degenerate —provide one answer to this question. Lust murderers are typically repeat offenders or serial killers. The serial nature of their crimes comes from the fact that they are motivated by recurrent fantasies that create recurrent cravings. They are, effectively, addicted to violence. Their fantasies often entail some kind of paraphilia — an extreme and abnormal sexual arousal to objects, people or situations — played out through some form of sadism — a persistent pattern of sexual or non-sexual pleasure from humiliating, punishing and harming others. Here again we see the promiscuous human mind at work, seamlessly blending pleasure and violence, animate and inanimate attractions, sometimes with benign origins, but often with malignant outcomes. Thus, the pleasure derived from humiliation may develop out of the more common, normal and less harmful pleasure we experience from mockery and humor. Humiliation is just a small step away in a mind that derives joy from others' demise.

The paraphilias, like many of the other disorders that appear within the *Diagnostic and Statistical Manual of Mental Health,* fall along a continuum from rather benign forms of voyeurism to erotophonophilia, the vicious and sadistic killing of an innocent victim in order to achieve ultimate sexual satisfaction. Regardless of the particular object or situation driving the paraphilia, individuals become addicted. Like other addictions, including those associated with food, drugs, and alcohol, paraphilic addicts experience withdrawal. Dangerously for the world around them, the erotophonophilic or lust killer harbors sadistic paraphilias, including flagellation — the need to club, whip or beat someone — anthropophagy — the desire to eat human body parts — picquerism — a craving to stab someone or cut off their flesh, focusing especially on genitals and breasts — and necrosadism — a yearning to have sexual contact with the dead. Although these desires may seem unimaginable, they reveal one facet of the human mind's potential — a potential that was fully realized in the mind of Jeffrey Dahmer who flagellated, cannibalized, dismembered, and engaged in necrophilia with his 17 victims. Such disordered minds are part of the human condition, one that stretches from individuals who never cache in on their fantasies to those who not only deliver, but develop — as in addictions to food and drugs — deeper and deeper desires for harming others without the rewards that come from such harm. When wanting and liking part company, with liking falling dormant due to sensitization, wanting grows in intensity, seeking but failing to find satisfaction. So begins an appetite for violence, one that can turn into a craving.

## *A craving to impress*

Gazelles on the Serengeti plains of Tanzania sometimes move in an exceptionally bizarre way. With legs rigidly extended, they bounce up and down like kangaroos. There is no obvious function associated with this movement. If anything, it appears energetically wasteful. If these gazelles lived in tall grass, one might think that the bouncing was designed to better see or be seen. But the Serengeti plains are flat and the grass is short. Gazelles can see for miles in this habitat and so can everything else that shares this gorgeous part of the planet with them. This includes the lions, leopards and cheetah that think of gazelles as breakfast, lunch and dinner. Why would a gazelle advertise like this? Why alert predators to your location and availability? Why not use the coloration of your fur to blend into the color scheme of the savannah, moving swiftly but imperceptibly?

We can explain the gazelle's bizarre movements — called *stotting* — by thinking economically, using Zahavi's honest signaling theory that I described in Chapter 1. Whenever evolutionary biologists see a behavior that is costly, they immediately search for a potential benefit. The reason is simple: behaviors that tax an individual's chances of survival and reproduction are ultimately weeded out by the force of natural selection. There must be some benefit to the individual or to others in order to neutralize the costs. Given the ostentatious nature of the gazelle's stotting, who benefits and how? Since the behavior is eye-poppingly interesting to human observers, one assumes that it is eye-popping to other animals on the Serengeti plains as well. Gazelles typically stot when they detect danger which, in the Serengeti, means leopards, lions and cheetah. If gazelles stot to alert other gazelles, then most gazelles should stot, at least some of the time. This is because all gazelles are vigilant, should have multiple opportunities to see these predatory cats, and should benefit from an alarm signal. But this is not what we observe. Instead, stotting seems to be reserved for those in good shape. When gazelles stot, they appear to be sending a cease and desist signal to any observant cat. If this is the gazelles' message, then cats should selectively chase non-stotters over stotters. And when cats turn a blind eye to stotting gazelles and chase them, they should have less success than when they chase non-stotters. Stotters are turbo-charged. Stotting is simply their way of showing off.

These expectations are supported by the British biologists Claire Fitzgibbon and Tim Caro who spent hundreds of hours watching gazelles and predatory cats. What they reveal is that stotting is an honest signal of condition or quality. Only gazelles in good condition can tolerate the costs of stotting.

Stotting *handicaps* the individual, imposing a significant cost on the ability to move. But the cost paid is relative to the individual's condition. Without the cost and the ability to manage it, everyone could stot. And if everyone could stot, the cats would quickly figure out how meaningless it is and look for other cues to vulnerability.

Stotting appears excessive, but in fact is an honest signal of power. It is, to borrow a phrase from the economist Thorstein Veblen, "conspicuous consumption." By flaunting their superior condition, throwing away resources just because they can, these stotting gazelles benefit in the long run, living longer and leaving more offspring who will inherit their qualities. These ideas carry over into human behavior, from big spenders to, I suggest, big harmers.

The American anthropologist James Boone has suggested that human magnanimity evolved as did stotting, as an honest signal of wealth and power. It represents a desire to impress through wastage. Handicap yourself in the short run to benefit your wealth and status in the long run. Big tippers don't tip in private, but in the presence of those who can admire their lavish tips. Hunter-gatherers who bring home large prey from a day of hunting don't make cryptic deposits for others, but make sure that their offerings are public. The Mayan pyramids were not built for personal enjoyment behind walled enclosures, but in the open, visible to potential enemies as displays of excessive power to create something really big and costly. Rappers such as JayZ, Puff Daddy, and 50 cent don't have absurdly lavish cribs with a six pack of sports cars because this is what they like, but because this is what they can show off on MTV. Flaunting, even at a substantial cost, provides a path to power. This is a club whose motto reads "Impress with excess."

My suggestion is that excessive harms work as honest signals of wealth and power. Here we combine the HOW of evil — discussed in this chapter — with the WHY of evil — discussed in chapter 1. When millions are raped, slashed, burned, chopped up, gored, and dropped out of planes before dying, there are only two possible explanations: the evildoer is clinically mad with no sense of moderation or a healthy schemer who has allowed desire to run wild. The schemers are like stotting gazelles, wanting to impress others of their awesome powers by performing high risk displays. The schemers deploy proactive, premeditated, and cold violence — like predators. As the sociologist Wolfgang Sofsky noted in his commentary on the Nazi concentration camps "Individuals demonstrated commitment by acting, on their own initiative, with greater brutality than their orders called for. Thus excess did not spring from mechanical obedience. On the contrary; its matrix was a group structure where it was expected that members exceed the limits of normal violence." Unfortunately for society — past, present and future — the Nazis are not an isolated case. When Slobodan Milosevic, Radovan Karadic, and Ratko Mladic launched their ethnic cleansing initiative, they didn't just displace or kill Albanians and Croatians, they raped their women, old and young, in front of husbands, fathers, and grandfathers — and then killed man of them. Admiral Luis Maria Mendia, one of the leaders in Argentina's "Dirty war," convinced victims to board a plane under the pretext of a freedom flight, and then once in flight, were thrown out of the plane, adding sheer terror to the brutality of their death. Accounts such as these litter the pages of history. They reveal that the desire to impress with excess is part of human nature.

What we have learned in this chapter is that our biology hands us the tools for excess, and hands some of us more than our fair share. This does not mean that we will or must use such tools. It also doesn't mean that the tools were designed for excess. Some are endowed with genes that predispose to sensation-seeking and risk-taking, others to brain circuitry and chemistry that create an insatiable desire for reward. Different environments either encourage this biology or discourage it, a topic that occupies chapter 4. As the eighteenth century poet William Blake remarked "The road to excess leads to the palace of wisdom… for we never know what is enough until we know what is more than enough." To more deeply understand how our desires runaway to excess, we need to understand how the mind facilitates this process. We need to understand the role of denial. We need to understand how individuals and groups dehumanize the other and self-deceive themselves into believing that those unlike them represent a threat to their purity and power. We need to understand how desire and denial combine to pave the way to excessive harms.

# Endnotes: Chapter 2

*Recommended books*

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# Chapter 3: Ravages of denial

Self denial is not a virtue: it is only the effect of prudence on rascality.
***-- George Bernard Shaw***

In October of 1980, a 39 year old man walked into the Royal Melbourne Hospital in Australia, having suffered a gun shot to the left side of his skull. Once the medical team removed the bullet fragments and cleared the blood clot, the man was able to speak. He had shot himself, aiming at his second head. Yes, his second head. This man believed that he had two heads, his own and the head of his dead wife's gynecologist. Before his wife died in a car accident, he believed that she was having an affair with her gynecologist. At night, the second head spoke, accompanied by voices from Jesus and Abraham who confirmed the existence of the second head. As the patient expressed to the interviewing doctor "The other head kept trying to dominate my normal head, and I would not let it. It kept trying to say to me I would lose, and I said bull-shit." "I am the king pin here" it said and it kept going on like that for about three weeks and finally I got jack of it, and I decided to shoot my other head off." Over a two year period, the perception of the second head disappeared. The attending neuropsychologist, David Ames, described the case as an example of schizophrenia-induced delusional bicephaly — a distortion of reality that creates a false belief of two heads.

Cases like this are bizarre. But like many neuropsychological reports, they force us to reevaluate our perception of reality, what's normal and what's distorted, what's adaptive and what's maladaptive. The Australian patient who developed delusional bicephaly was suffering from the loss of his wife. Loss and suffering motivate explanation, along with something or someone to blame: Was it really an accident? Why her? Why not me? What if she had stayed home that morning? What if I had been driving with her? Was she distracted by her lover? Was he in the car? These questions represent gaps in a narrative, holes that we attempt to fill, often by distorting reality.

Distortions of reality are common. Even the healthiest among us create stories designed to explain a puzzle in our lives or to help us through trauma. These stories are narratives that provide new truths by denying particular elements of reality. They represent the mind's method of filling in gaps, providing justifications for what we can't explain or wish to explain in a different way. This is an adaptive feature of the human mind, one that is uniquely human. But this same feature can be used to justify immoral and atrocious behaviors, the kind that lead to excessive harms. When we distort reality by treating others as non-human, perceiving and judging them as animals, parasites, or machines, we have armed ourselves with a weapon that enables great harms by removing the moral consequences of our actions. Animals, parasites and machines are outside of our moral concerns, so we shouldn't feel guilty, or wrack our conscience when we end their lives or ability to move. Animals, parasites and machines don't have rights, and thus, we have no obligation to them. Similarly, when we distort reality by means of deception and self-deception, we have armed ourselves with weapons that enable desire to run wild. Self-deception generates overconfidence. Overconfidence enables us to pursue our desire for power, freed from the reins that pull us back, away from costly interactions. Self-deception allow us to convince ourselves and deceive others that we are under attack, threatened by those who are unlike us. Under the circumstances, we are justified in using self-defense, even if this leads to annihilating the enemy. Often, self-deception combines with dehumanization to maximize the effectiveness of the distortion, paving an unobstructed path for runaway desire. Denial enables desire to achieve satisfaction, minus the moral conscience. These are the ideas that I will explore in this chapter.

Before discussing the scientific evidence that explains how the brain distorts reality by dehumanizing and self-deceiving — two core elements of denial — we must understand how the brain creates the reality of humanization, a process that imbues some things but not others with human qualities and moral worth. This is an important problem as it shapes our perception of evil, who can cause excessive harm and who can suffer from it. Rocks can cause great pain — as in landslides — but we don't hold them responsible for the harm caused because they lack intentions, beliefs, goals, and desires. Rocks can also be crushed, pulverized into sand by humans working in a quarry. But rocks are neither innocent nor victims as they have no moral worth, no capacity to suffer, and no ability to intentionally harm another. If not rocks, what?

### *iHuman*

Earthquakes, viruses, chimpanzees, children, and psychopaths can all cause harm to others, including humans and other animals. We might be tempted to think that only psychopaths are rightfully classified as evildoers because they are the only ones that can cause excessive harm to innocent others with harm as a goal. But this begs the question of what we mean by excessive, innocent, and goal.

Earthquakes, viruses, chimpanzees, and some children often cause excessive harm to innocent others, at least if the focus is on numbers and the way in which death arises. The earthquake that reached a magnitude of 7.0 on the Richter scale and demolished the capital of Haiti in 2010 took the lives of approximately 200,000 people, all innocent and undeserving of this natural disaster. This is excess beyond what any psychopath has ever achieved. The Spanish Flu found its way into the bodies of innocent people from the Arctic to the Pacific Islands from 1918 to 1920, and killed over 50 million people — a death toll that is at least four times higher than what Hitler caused during his reign, and comparable to that achieved by Mao Ze-Dong during his. As noted in chapter 1, chimpanzees kill at a rate that approximates many hunter-gatherer groups. When they kill, the frenzied attacks are over the top, involving gruesome dismemberment of their victims by biting into the face, ripping off testicles and dislocating limbs. By the age of 15 years, Willie James Bosket Jr had committed some 200 armed robberies, stabbed 25 innocent victims, kicked a boy off of a roof to his death, and killed two men following a failed robbery, all "for the experience." At the level of outcomes, these are all horrific cases of lives lost, with some excessive in terms of numbers and others in terms of means.

We can eliminate earthquakes and other natural disasters from the list of evildoers by noting that they don't have, as their goal or as a foreseen consequence, the elimination of lives, innocent or not. They don't have goals at all. This also eliminates them from the class of victims, assuming the day comes when scientists can kill off earthquakes, cyclones, hurricanes, blizzards and so on before they pick up enough steam to cause great harm. One might think that viruses, and their virulent partners the parasites, lack goals because they lack brains. This intuition is correct anatomically, but incorrect conceptually. As the American philosopher Daniel Dennett has noted, the beauty of Darwin's theory of natural selection is that it provided a way of giving nature competence without comprehension. Thus, viruses and parasites have goals without understanding at all. To survive and reproduce, they have evolved exquisite chemical and electrical machines that harvest all of their host's resources. And if making a living requires killing the host, so be it. They do so without shedding a tear. No guilt, no remorse. Chimpanzees, on the other hand, have goals and brains that represent them. When chimpanzees kill, their goal is not food. Their brutal attacks are motivated by a desire to outcompete their rivals and absorb additional resources; no one knows if they feel guilt or remorse. Willie Bosket's goal was to rob two men, but when he failed, he turned to gratuitous violence, *for* the experience. Bosket certainly could, as a human, feel guilt and remorse, but all reports indicate he didn't.

We can eliminate parasites and viruses from the list of evildoers and evilreceivers by noting that they lack an understanding of right and wrong, and are incapable of suffering. Chimpanzees are a harder case. They live in societies with norms and respond aggressively to norm transgressions, as occurs when a high ranking male beats a lower ranking male for trying to steal food or a mating opportunity.

Chimpanzees also suffer, experiencing pain from both physical attacks and social loss. But getting angry at something or someone and feeling pain from a physical or social assault are different from getting angry because someone's behavior was morally wrong, and suffering from a morally toxic action. I get angry at my computer all the time, swearing when it crashes, and even smacking it on its backside. But there is no moral harm. In this sense, there is no evidence that chimpanzees have a sense of right and wrong, and that the pain they experience is linked to a sense of how one ought to behave. Chimpanzees can't be evildoers, but they certainly can, and have been evilrecipients.

There is also an important difference between violently harming another and knowing it is wrong, and harming another because it is wrong. The latter fits at least one view of evil, a kind of radical evil in which harm is created for harm's sake, because it is rewarding. When Willie Bosket killed those two men, he was certainly old enough to know the difference between right and wrong. He most likely killed knowingly, perhaps for the generic experience of shooting someone, but perhaps not with a desire to harm for harm's sake. Then again, when he noted that he killed for the experience, perhaps this was the experience of pleasure from harming another.

Was Willie Bosket responsible for his shootings? The answer to this question depends on how we think about Bosket's options, and the link between cause and effect. At the simplest level, Bosket caused the death of the two men in the same way that a swinging wrecking ball can cause the death of two men. But the wrecking ball can't be held accountable or responsible in the same way that Bosket can. Wrecking balls lack options and lack the capacity to predict the consequences of their actions. Bosket had options, could foresee the consequences of his actions, and had the capacity to act upon his options. Or did he?

We know that the frontal lobes of the brain play an important role in self-control and emotional regulation. We also know that this area of the brain is not fully mature until people reach their mid-twenties. Bosket was, therefore, operating with an immature brain. His actions were, in some ways, like the wrecking ball, driven by inertia. Perhaps the frustration of failing to achieve his goal — robbery — caused a dizzying chemical reaction in his brain, causing a flood of emotions, blinding his capacity to think rationally. Paraphrasing the Slovenian philosopher Slavoj Zizek, these electrochemical storms in Bosket's brain caused him to *deposit his conscience* at the door. Like the husband who finds his wife in bed with her lover and kills them both on the spot, Bosket committed a crime of passion. On this account, not only is he not evil, he is pardonable.

Immaturity is a mitigating factor when we evaluate a crime. It is why, in many countries, there is one legal system for youths and another for adults. It is why, in countries with the death penalty, such as the United States, youths are immune. With maturity comes a heightened capacity to control ones actions, or at least, to gain better self-control and thus, to take responsibility for what one does. This means that maturation eventually legitimizes individuals as potential evildoers. It does not, however, cause a shift in our sense of evilrecipients. Willie Bosket may not have been an evildoer, but he certainly could have been an evilrecipient.

What about psychopaths, people like Charles Manson and Ted Bundy? Pop culture tells us that they are depraved, heinous, immoral monsters, deliberately causing harm to others, and often with a delicious twinkle in their eye. But what if I told you that several recent studies of psychopaths indicate that they know the difference between right and wrong? When judging the moral permissibility of different actions, such as harming one person to save the lives of many, psychopaths' judgments are often like yours and mine, nuanced, varying depending upon the outcomes and the means by which they are achieved. This is a rational, albeit largely unconscious understanding of right and wrong. This makes psychopaths nothing like earthquakes, viruses, chimpanzees, or young children. It also means that they don't have bad moral principles, but rather, ones that are like yours and mine. What if I further told you that before they develop into fully licensed-to-kill or extort psychopaths, many have an early history of torturing pets and bullying other kids. What if I further told you that when they cooked the cat in the microwave or bloodied little Johnny's face with their fist, that the consequences of their actions left them cold — no guilt, remorse, or shame. Nothing. And what if I told you that these people are born with a different brain chemistry and structure than you or I, leading to poor self-control and an emotionally callous view of the world? If this medical report is correct, and I believe the scientific evidence supports it, then psychopaths lack the ability to see alternative options and act on them. They also lack the resources for self-control. Given this evidence, psychopaths are not evil at all, though the consequences of their actions are often excessively heinous. Given this evidence, not one member of our initial list would count as evildoers, though chimpanzees, children and psychopaths would all count as potential evilrecipients.

What this discussion highlights is that our perception of evildoers and evilrecipients is influenced by our sense of what it means to be human. Though evildoers and evilreceivers overlap in their capacities to think and feel, there are differences, captured by Aristotle's distinction between moral agents — those who have responsibility for others well being —and moral patients — those who deserve moral consideration and care from moral agents. The distinction gains scientific credibility thanks to a set of studies by the American psychologists Kurt Gray and Daniel Wegner. In one experiment, a large internet population compared the qualities of different things, including humans at different stages of development — fetus, baby, child, and adult — an adult human in a vegetative state, a dead human, nonhuman animals — frog, pet dog, chimpanzee — God, and a socially savvy robot. Subjects judged different pairings of these *things* on a wide range of dimensions, including which was more likely to develop a unique personality, feel embarrassed, suffer pain, distinguish right from wrong, experience conscious awareness, exert greater self-control, plan ahead, develop fears, feel pleasure, and erupt into rage. Subjects also provided their personal opinions on which individual, within the pair, they liked most, wanted to make happy or destroy, was most deserving of punishment, and most likely had a soul.

I assume that everyone reading about the design of this study has already formed an opinion about some of the comparisons. Presumably everyone believes that a living adult is more consciously aware than a dead person, fetus, dog, and robot. Presumably everyone believes that all animals feel more pain than a dead human or a robot. And presumably everyone would rather make a dog happy than a frog, and would be more likely to allocate souls to fetuses, babies, and adult humans than to robots and frogs. But are we more conscious than God? Does a chimpanzee feel more embarrassed than a baby? Can a person in a vegetative state feel more pleasure than a frog or robot? What dimensions, if any, cause us to lasso some things together but not others? What things cluster together and why? As a reminder: this study is about our intuitions, not about what scientists have discovered about the minds and emotions of these different things.

Adding up the large set of responses produced a map or landscape defined by two dimensions: experience and agency. Experience included properties such as hunger, fear, pain, pleasure, rage, desire, consciousness, pride, embarrassment, and joy. Agency included self-control, morality, memory, emotion recognition, planning, communication and thinking. Experience aligned with feelings, agency with thinking. With these dimensions, we find God at one edge, high in agency and low in experience. On the opposite side, huddled together on the landscape, defined by low agency and high experience, we find fetuses, frogs, and people in a vegetative state. High in both agency and experience were adult men and women. Robots and dead people were low on experience and in the middle for agency, whereas dogs, chimpanzees, and human kids were high on experience and middling on agency. This landscape not only helps us understand how people classify these different entities, but also plays a more active role in guiding individuals' judgments to punish, provide pleasure, and avoid harm. If you have to harm something, pick an entity low in experience, such as dead people and robots who can't suffer. If you have to punish something, pick an entity high in agency, such as living adults who recognize the difference between right and wrong and have the capacity for self-control.

What this work shows is that people have strong intuitions about which things are morally responsible as agents and which are deserving of our moral concerns as patients. Moral patients are high in experience, and can thus suffer as victims, innocent or not. This is why many countries have created laws against harming nonhuman animals, including restrictions on which animals can serve in laboratory experiments, what can be done to them, and how they should be housed. This is also why we don't do experiments on fetuses, newborns, adults in a vegetative state, or humans with neurological disorders that knock out aspects of their experience and agency. Once something enters the arena of moral patients, we tend to leave them within this arena even if they lose particular capacities. Conversely, if scientists discover that an organism outside the arena of moral patient-hood has capacities of experience and agency that are on a par with those inside the arena, this evidence often promotes their legal status and protection. Such was the fate of the octopus, an invertebrate once classified by Aristotle as “stupid”, but now elevated to the company of much smarter animals that solve novel problems, deploy trickery, and show some evidence of being aware of their behavior. As such, they are one of the few invertebrates to enjoy heightened protection and care when they are kept in captivity.

Moral agents are high in agency, meaning that they can distinguish right from wrong, exert self-control in the context of selfish temptation, can be blamed and punished, and are expected to care for moral patients. Moral patients are high in experience, including especially the capacity to feel pain. Both moral agents and patients have moral worth. But as in all entities that have worth or value, some are more valuable than others. So it is with moral worth. This is where departures from humanness get interesting, dangerously so. When we strip individuals of their moral worth, denying them qualities that define humanness, we have entered a world of distortion and denial that facilitates and justifies excessive harms.

Across many studies, individuals consider themselves to be more human — as defined by the dimensions of experience and agency — and to have greater moral worth than other individuals. When individuals are socially ostracized and excluded from a group, they judge themselves as less human, and so do the spectators who observe the ostracism. Individuals judge members of their own group to be more human and morally worthy than those outside the group, no matter how small or broad the group is. What counts is our overall sense of how we compare to others, and the dimensions used to calibrate this similarity metric. The Australian social psychologist Nick Haslam carried out several experiments to determine how our rating of a group’s humanness influenced how much we praise, blame and protect them, as well as whether we believe that rehabilitation or punishment is most appropriate after they have done something wrong. Haslam based his study on the idea, supported by the law, science, and our folk intuitions that we blame, praise and punish only those who do bad things on purpose as opposed to by accident. Conversely, we favor rehabilitation in those cases where we believe that the person can right a wrong, learning a lesson from a prior transgression.

Subjects started by rating several different social groups along different dimensions of humanness. Though Haslam’s dimensions were slightly different from those used by Gray and Wegner, they generally corresponded to experience and agency, including compassion, warmth and a sense of community on the one hand, and reason, self-control, civility, and refinement on the other. The target social groups were associated with negative or positive stereotypes such as the homeless, mentally disabled, athletes, politicians, doctors, lawyers, gays, and different religious groups. Next subjects imagined that a member of one of these groups had acted morally or immorally, or had been mistreated in some way. Then they decided whether the person should be praised for a particular moral act such as returning a wallet, considered responsible for an immoral act such as breaking a promise, helped out for mistreatment such as being pushed out of line by a person in a hurry, and punished or rehabilitated for wrongful behavior.

Haslam's results generated a landscape of humanness very much like Gray and Wegner's. Those groups rated highly in terms of agency, were more likely to be blamed and punished. Those groups rated high in experience were more likely to be praised, protected, and placed into rehabilitation. Those groups perceived as more emotional, compassionate and warm — components of experience — were praised more, whereas those perceived as more civil and rational — components of agency — were praised less. Overall, the more a group tilts toward the experience end of the spectrum, the more we see them as moral patients, deserving of our care and compassion. The more a group tilts toward the agency end of the spectrum, the more we see them as moral agents, having responsibilities and duties to act morally.

Haslam's findings are not only of great conceptual interest, shaping our understanding of the defining qualities of being human, but also figure into everyday political and legal decision making. When do we believe a person has the right to vote, drive responsibly, drink alcohol reasonably, and serve an adult as opposed to a youth sentence for a crime? In the United States, the age cut off for considering the punishment of a crime under the jurisdiction of a juvenile court proceeding ranges from 16-19 years. Juvenile sentences are lighter than adult sentences, and rarely include life in prison or the death penalty. Though there is an arbitrariness to these age cut offs, and no good reason why states should differ, the decision to treat youths differently not only maps on to our intuitions but to the attributes that psychologists such as Haslam, Gray and Wegner have discovered. Treating an individual as a youth is more likely to trigger the dimension of experience in jury members and thus, more likely to trigger a sense that the individual should be protected and given the opportunity to change through rehabilitation. This fits with scientific evidence that an immature brain is a more plastic brain, capable of change. It also fits with the evidence that an immature brain is a brain with less self-control and critical reasoning — both components of the agency dimension. These less than fully human qualities on the agency dimension, balanced by more qualities on the experience dimension, provide youths with an automatic entry ticket into the arena of moral patients.

Moving outside of the arena of moral patienthood and into that of moral agency requires a change in perception. It requires us to see individuals as acting responsibly, controlling temptation, and understanding the distinction between right and wrong. It is for these reasons that our legal system, and the courts that carry out its principles, must consider psychological differences. Classifying individuals as adults or juveniles drags with it a massive psychology that is biased toward responsibility, blame and punishment on the one hand and protection, intervention, and rehabilitation on the other. The same biases are also engaged when we consider adults with developmental disorders or brain injury, as these deficits are often associated with selective loss of either components of agency or experience, and sometimes both. As demonstrated by the work of Kurt Gray, Andres Martinez, and others, labeling someone a psychopath, autistic, or schizophrenic effectively pigeon holes the individual into a class of individuals with less than fully human qualities. This is a good thing when it focuses us on protection, intervention and rehabilitation. It is a bad thing when it allows us to morally disengage because those lacking the full compliment of qualities associated with agency and experience are less morally worthy. Humanness drives our moral concerns and our sense of others' moral worth. When we lower our sense of another's value, we are willing to violate our sense of the sacred, engaging in trade-offs that are normally taboo.

Experiments by the American psychologists Philip Tetlock and Jonathan Haidt help us see what is sacred by asking individuals what they would pay to do something sacrilegious. If something is sacred, of great moral worth either personally or to your group, could you be paid off by a wealthy investor to give up the object or engage in an act against it? For each of the acts below, think about your payoff point in dollars from $0 (for free) to $1million, including the option of saying that you would never do it for any amount of money. Keep in mind that if you choose to carry out an act and receive payment you will not suffer any consequences:

- Kick a dog in the head, hard.
- Sign a secret but binding pledge to hire only people of your race into your company
- Burn your country's flag in private
- Throw a rotten tomato at a political leader that you dislike.
- Get a one pint transfusion of disease-free, compatible blood from a convicted child molester.

If you are like the subjects in these experiments, the mere process of considering a payoff, even for a short period of time, will have turned your stomach into knots and triggered a deep sense of disgust. This is because violating the sacred is akin to violating our sense of humanness. It is playing with the devil, accepting a Faustian offer of money to strip something of its moral worth. As Haidt notes, even though it is sacrilege to accept payment across different moral concerns, including avoiding harm, acting fairly, and respecting authority, different experiences can modulate the aversion we feel when we imagine such transgressions. Women typically demand more money for each of these acts than men, and more often reject them as taboo. Those who lean toward the conservative end of the political spectrum either ask for more money or consider the act taboo when compared to liberals, and this was especially the case for questions focused on acting against an in-group (race), an authority figure (political leader), or ones purity (blood transfusion). What this shows is that our cultural experiences can distort what we consider morally worthy or sacred. It shows how easily we can flip our values in the face of tempting alternatives.

The scientific evidence presented in this section shows that our decisions to treat others according to different moral principles or norms is powerfully affected by our sense of what counts as another human being. What counts includes at least two important dimensions, one focused on agency and the other on experience. These dimensions determine whether we blame or praise someone, punish or rehabilitate them, and ultimately, include or exclude them from the inner circles of moral agents or moral patients. Those who fall outside these two inner circles are morally worthless. Those who are morally worthless can be destroyed or banished. Some things are justifiably excluded and fit with our general sense of reality — rocks, dirt, cardboard boxes, plastic balls, and pieces of glass. Other things are excluded because they don't fit with our values of what reality should be. This is where distortion and denial enter the process. This is where we create walls around members of one group in order to keep others out. This is where we express partiality instead of the impartiality that Lady Justice champions with her two balanced scales and blind fold-covered eyes. This is where we exclude others from our inner sanctum in order to justify great harms. How is the inner sanctum set up and put into action over a lifetime, sometimes for legitimate causes and sometimes for illegitimate and unconscionable causes?

### *Populating the inner sanctum*

Elie Wiesel, the Nobel Peace Laureate and Holocaust survivor, remarked that "anti-Semitism is the most ancient form of prejudice." This claim may well be true of human written history, but is most definitely false if one considers the fact that all social animals and human societies, including the hunter-gatherer groups that are descendants of people that predated the Jews, hate some individuals and love others. Prejudice, though often based on deep seated ideological biases and stereotypes that humans invent, is, at root, a form of partiality. Every social animal, either extinct or alive today, expresses partiality. This is a highly adaptive and ancient psychology, promoting the care of young, investment in mates, and escape strategies against enemies. Humans are no different, except for the role that our promiscuous brains play in fueling partiality with ideology and symbolism. Sometimes when we express our partiality it is for the noble cause of caring for our children and for defending ideological beliefs surrounding humanitarian causes, including defense of basic human rights. Sometimes when we express our partiality, it is for the ignoble cause of destroying others. How does human partiality begin? Do babies express preferences for certain social categories? How does their experience sculpt new categories? How is the inner sanctum populated, enabling us to preferentially help those within and harm those outside?

At birth, newborns preferentially listen to their native language over a non-native language. Soon thereafter, infants prefer to listen to their native dialect over a non-native dialect, and look longer at their own race than another race. This shows that they can discriminate between different languages, dialects, and racial groups. But do they form social preferences based on these distinctions? Would a young baby or child prefer to take a toy from an unfamiliar person who speaks the same or different language, from the same or different race? To answer these questions, the American psychologist Katharine Kinzler put 5 months old babies to a test.

Babies born into mono-racial and mono-lingual families sat on their mother's lap in front of two monitors, each presenting short video clips of different people. After watching the videos, Kinzler created a bit of magic. The people in the monitor appeared to emerge from the 2D image and offer the baby a toy. The trick: a real person, hidden beneath the monitor, synchronized her reach with the reach in the monitor. Who would the baby choose given that both people offered the same toy? Babies preferred people speaking the native over non-native language, and native-accent over the non-native accent. At this young age, however, they showed no preference for native over non-native race. Thus, early in life the connection between discrimination and social preference is well established for language, but not race. When do things change for race?

Kinzler carried out another series of experiments on race with one group of 2.5 year old children and a second group of 5-year olds. Though the methods were somewhat different, they both focused on the child's preferences, including who they would share toys with and who they would prefer as friends. The 2.5 year olds showed no preferences, whereas the 5 year olds preferred their own race. Race is therefore a slowly developing category, at least in terms of its impact on social preferences, and especially when contrasted with both language and accent.

Kinzler took these studies one step further to explore whether there is anything like a hierarchy among these social categories and the features that define them. What's more important to a young child building an inner sanctum of trusted others —race, language, or dialect? Would they rather interact with someone of the same race who speaks a foreign language or someone of a different race who speaks the native language? Using similar procedures, Kinzler showed that by 4-5 years of age, language trumps race. Children would rather interact with someone from a different race speaking the same language than someone of the same race speaking a foreign language.

Why would language trump race? Kinzler's answer relies on an idea developed by the American evolutionary psychologist Robert Kurzban. Imagine a hunter-gatherer in South Africa, living during the earliest stages of our evolutionary history. As individuals searched for food to eat, areas to sleep, water to drink, and places to avoid, they came across other individuals. These individuals were always members of the same race. Racial differences did not emerge until relatively late in human evolution, well after our ancestors took their first steps out of Africa. If we are thinking about an evolved psychology for bonding with members of our own group and fighting those outside, our ancestors would have been blind to race as it was not yet an emergent property of our species. Language was, however, a property of our species, and one that varied across populations. A hunter-gatherer walking the plains of South Africa would indeed have run into people speaking either a completely different language, or the same language with a different dialect. New languages are not easily acquired, and nor are new dialects. It takes real talent to speak a new language or dialect without a trace of ones origins. Thus, like the stotting gazelles, magnanimous spenders, and healthy evildoers discussed in chapter 2, the native languages and dialects we speak are honest signals of social group membership. Honesty is supported by the costs we pay to acquire them. Cheating is hard because there is a start-up cost associated with perfecting the natural rhythm of a second language or novel dialect.

The babies in Kinzler's experiments tell us something important: race and language are both important social categories and discriminable from an early age. But language trumps race as a feature because it is a better predictor of membership within the inner sanctum, at least early in life. Ultimately, both language and race allow us to close off some from the inner sanctum and allow others in. Ultimately, our allegiance to our native language and race can fuel our hatred toward those who look different and speak in different tongues.

## *Closed doors*

As adults, we tend to rely on rules of thumb to guide our social interactions, including who we trust and who we distrust. We tend to trust those we know more than those we don't know. Within the circle of those we know, we believe those who are more like us than those who are unlike us, using fixed body features — race, height, hair color — flexible psychological features — food preferences, sports' interests, religious beliefs — and features that are flexibly constrained — language and intelligence. Together, these different dimensions cause us to close the door on some and open it to others.

Language is particularly interesting. If you can't understand someone because they don't speak your language or because their accent is too heavy, then the issue is not trust, but comprehension. But what if you can understand the person perfectly well, but they speak with a foreign accent, either one from a different country (e.g., a French speaker speaking English) or one from the same country but a different region (e.g., a Southern accent in the northeast of the United States)?

Subjects in an experiment first listened to people reading trivia, such as "A giraffe can go without water longer than a camel can," and then judged whether the sentence was true or false. If the sentence was read in a foreign accent, subjects were more likely to say that it was false than if it was read in the native accent. Subjects voiced this opinion even though the experimenter told them that the reader was not expressing an opinion, but merely reading the passage as instructed. In a second experiment, British subjects listening to a non-guilty plea by a person on trial were more likely to judge the person as guilty if he committed a blue collar crime and spoke with a non-standard British accent (e.g., Australian). In contrast, they were more likely to judge a white collar criminal as guilty if he spoke with a standard British accent. Even within the class of British accents, biases emerged: subjects from the Worcester region were more likely to judge supposed criminals as guilty if they spoke with a Birmingham accent than with a Worcester accent. Together, these studies paint a bleak picture: accents from an out-group are perceived as less truthful than others, and in the context of a criminal case, more guilty as well.

Accents are learned early in life, and once in place, are both clear markers of your origins and difficult to undue. As such, they are honest indicators of at least one dimension of group membership. What about dimensions that can readily be acquired at any point in life, and just as easily dropped? How do these influence not only our perception of those who share these dimensions in common, but how we treat them? In the last chapter I discussed a study by Tania Singer in which both men and women showed more pain empathy — as revealed by activation in the insula region of the brain — when they watched a cooperator experiencing pain. Further, men showed a reduction of activity in this area when a cheater experienced pain, and increased activity in a reward area — the nucleus accumbens. This pattern fits well with the research on human and nonhuman animals showing that winning, and watching winners win, triggers a choreographed ballet of physiological responses associated with reward. Singer took this work further, asking whether an individual's support for a sport's team might similarly modulate both the feeling of pain empathy as well as reward. Subjects, all soccer fanatics, sat in a scanner and watched as a player from their favorite team or a rival experienced pain. Next, Singer provided subjects with three options for interacting with these players: help them by personally taking on some of the pain they would receive, letting them take on all the pain but watch a video as distraction, or let them take on all the pain and watch as it happens. Option one is costly altruism, two is blissful ignorance, and three is schadenfreude.

In parallel with the earlier work on fairness, here too Singer observed greater pain empathy when the favorite team player experienced pain than when the rival experienced pain. She also observed that subjects were more likely to help favorite team players by taking on some of their pain, but more likely to watch rivals receive pain. The higher the activation level in the insula, the more they took on their favorite team player's pain session — the more they helped. When they watched rivals experience pain, there was significant activation in the nucleus accumbens. They felt an immediate honey hit, joy over the rival's pain. The higher the activation in this reward area, the more likely they were to choose the option of watching the rival experience pain — like watching a public execution and cheering for just deserts. These results show that individual differences in our compassion toward others in pain predicts our willingness to help them. It reveals another dimension, like language, that biases our sense of justice, both in our judgments and in our behavior. Conversely, individual differences in our joy over others' misery predicts our willingness to allow others to suffer, suppress our instincts to help and, I suggest, facilitate our capacity to harm. Similar response patterns arise in the context of race — a feature of group membership that is fixed at birth.

As noted earlier, babies stare longer at faces of people from the same race than from people of a different race, and by the pre-school years, are more likely to show social preferences for peers and adults of the same race. In brain imaging studies, specific areas activate when we process faces as opposed to other objects, and one tenth of a second later, other associated regions activate when we process race. This rapid activation occurs whether we are consciously engaged in classifying faces by race or not; for example, the same areas activate even when we are forced to focus on gender or familiarity. This shows that from the brain's perspective, we don't have an option of processing a person's race. The brain automatically and unconsciously hands us this information, like it or not.

The fact that we process race automatically gains importance based on a powerful set of behavioral studies showing that virtually every person, independently of their explicit avowals of non-racist attitudes, holds implicit or unconscious racist biases. Using a research tool developed by the social psychologists Tony Greenwald and Mahzarin Banaji called the *Implicit Attitudes Test* or IAT, subjects see different faces or read different descriptions of people, and then make evaluative judgments about these people. Often, the presentations are rapid so that there is little or no time to reflect upon the evaluation. For example, in a study focused on race, subjects first classified photographs of people's faces as either Caucasian or Black. Next they classified words into those associated with good positive meaning — joy and friend — and those with bad negative meaning — hate and bomb. In the third and critical step, subjects saw faces and words together and, using a rule provided by the experimenter, struck one of two keys on a keyboard as fast as possible: for example, strike the #1 key if you see a Black face and a good word, but the #2 key if you see a Caucasian face and a good word. The intuition here is that if certain faces and words are more strongly associated, because this is what people have learned over time, then they will press the relevant key faster than for weaker associations. Results from several studies confirm this intuition. For example, Caucasian subjects who explicitly deny racist attitudes are nonetheless slower to respond when Black, as opposed to Caucasian faces are associated with good words, and faster to respond when Black, as opposed to Caucasian faces are associated with bad words. These patterns hold even when subjects respond to names commonly associated with Caucasian and Black people. A quick skim through the many blogs commenting on this work reveals a common refrain that makes the key point: many that have taken this test, whether focusing on race, sexual orientation, or political affiliation, opine that the test must be invalid because they explicitly disavow any groupish biases. But that's the point! What we disavow explicitly has less impact than we would like on what we hold implicitly.

If our implicit system champions one view of racism and our explicit system another, then we are continuously faced with an epic conflict. To resolve this conflict, and enable the explicit system to emerge triumphant, requires self-control, keeping the implicit system quiet. Studies of the brain provide interesting insights into this process. Recall that when we experience conflict, regardless of its content, there is activation in the anterior cingulate. When we exert self-control, regardless of content, there is activation in particular regions within the prefrontal cortex. When we feel threatened by a dangerous animal or person, there is activation in the amygdala. These three brain regions tell an interesting story about how we process race. When Caucasian subjects view faces of Black as opposed to Caucasian people staring at them, there is greater activation in the amygdala. This racial difference disappears if subjects view photos of faces looking away or with eyes closed. It is the potentially threatening aspect of a face staring at you that engages the racial difference. If you briefly flash faces at Caucasian subjects so that they are unaware of them, there is stronger activation in the amygdala for Black than Caucasian faces. But if you present the faces for long enough, allowing them to enter conscious awareness, the amygdala's pattern of activity goes away, replaced instead by strong activation in the anterior cingulate and prefrontal cortex. Staring longer at someone from a different race triggers a sense of conflict and engages the system of self-control, pushing down our implicit racism to enable more explicit neutrality and equality.

What this work shows is that understanding our attitudes and actions toward those of the same and different race requires consideration of implicit and explicit components. Think of this process like a hand pushing down on an automatic watering fountain. The machinery that produces the pressure to push water out of the holes in the fountain operates without concern for what happens outside in the world. The hand that pushes down is under human control, consciously guided, perhaps with the aim of simply spreading the water or feeling its' coolness on a hot day. Though the hand may try to control the movement of the water, it may only do so to some extent, guided by the power of the automatic engine below. Thus, we have an automatic bottom up mechanism and a controlled top down mechanism. So it is with race. The bottom up mechanism operates automatically, pushing forward our implicit prejudice. The top down mechanism attempts to exert control, when and where it can, to avoid looking racist, sexist, or what have you. Somewhere, the two meet, creating a personality profile that is more explicitly racist, sexist, or X-ist in some cases than others, either because the individual lacks top down control or because they decide to relinquish it.

In parallel with Singer's work on the relationship between pain empathy and our classification of others as fair-minded cooperators or narcissistically-minded cheaters, so too does race influence our expression of compassion toward those in pain. Both Caucasian, Black and Asian subjects showed stronger activation in the pain-related areas of the brain when viewing individuals from the same race experience pain than when viewing individuals of a different race. When Black subjects played a computerized game involving social ostracism, they showed stronger activation in areas of the brain involved in social pain when excluded by Caucasian players than when excluded by Black players. When others suffer and we have the opportunity to help them, we are more likely to help those of the same race, and feel good about it as evidenced by activation of brain areas involved in reward.

Our biases, both implicit and explicit, influence our compassion toward others and our motivation to help. This statement is true whether we are looking at evidence from young children or adults, and using measures that assess sensory perception, behavioral judgment, or activity patterns in the brain. Beginning with an evolutionarily ancient brain system that was designed to distinguish friendly ingroup members and antagonistic outgroup members, we populate the inner sanctum with people who we perceive as most like us, using both fixed and variable features. With time, the walls surrounding this sanctum close, attributing the full richness of human nature to those within, and bleaching it from those outside.

### *Bleaching humanity*

Draw an imaginary circle around yourself with a diameter of about fifty feet. Now imagine packing this circle with people, forming an expanding set of concentric circles that radiates out from those closest to you to those you don't know at all. Based on social network analyses by sociologists such as Nicholas Christakis, the majority of people within the inner circles will be like you in a number of ways, including their race, religion, political affiliation, food preferences, and aesthetics. This includes family members and close friends, but also those we work with, vote for, and play with. As you travel from the inner core to the outside, you will find less in common. Some in the outer core will not only have less in common, but as noted earlier in this chapter based on work by Gray, Wegner and Haslam, will be perceived as less human, stripped of dimensions of experience and agency that define humanity. Some will appear like objects, others like animals. When we transform others into objects, we have stripped away core aspects of human nature, including emotional sensitivity, warmth, and flexibility. When we transform others into animals, we have stripped them of uniquely human qualities such as rationality, self-control, moral sensibility, and civility. Of those who are like animals, some will seem like kin to the domesticated form and thus controllable as property; others will seem like wild animals and thus dangerous, dirty and deserving of elimination. However we engage this process, we have bleached individuals of their humanity. This process, one that occurs in both everyday life and in cases of conflict, has allowed us to treat the mentally and physically disabled like animals, to consider women as sexual property, justify slavery and slave wages, deny certain races the opportunity to vote and receive education, and mandate ethnic cleansing.

Before I describe a shocking set of experimental findings on dehumanization, consider first a snapshot into some of our historical attitudes, shared across many countries and cultures. Before we knew much about human evolution and the causes of variation, scientists made sweeping statements about the relationship between brain structure and differences in intelligence and behavior among men, women and the variety of races. It was commonly believed that, compared with white men, women and all other races had smaller brains, approximating our cousins the apes. Listen to Gustave LeBon, a distinguished social psychologist, writing in 1879:

> In the most intelligent races, as among the Parisians, there are a large number of women whose brains are closer in size to those of gorillas than to the most developed male brains. This inferiority is so obvious that no one can contest it for a moment; only its degree is worth discussion. All psychologists who have studied the intelligence of women, as well as poets and novelists, recognize today that they represent the most inferior forms of human evolution and that they are closer to children and savages than to an adult, civilized man. They excel in fickleness, inconstancy, absence of thought and logic, and incapacity to reason. Without doubt there exist some distinguished women, very superior to the average man, but they are as exceptional as the birth of any monstrosity, as, for example, of a gorilla with two heads; consequently, we may neglect them entirely.

By elevating white men to the gold standard of perfection, it was easy to see everyone else as a degenerate form of God's creation or, in biological terms, of arrested evolution, with non-Caucasian races showing greater affinity to our furry cousins the apes. Looked at today, backed by our understanding of genetics and the evolutionary process, these accounts are absurd and offensive. Sadly, despite efforts to clean up our explicit racist and sexist attitudes, overwhelming evidence reveals that the brain holds dear a suite of unconscious prejudices that serve to dehumanize those unlike us.

Now the shocking experiments. The American social psychologist Jennifer Eberhardt dared to ask whether US citizens unconsciously associate Black people with imagery ofd apes, using the disturbing history of this association as her jumping off point. In parallel with the studies of race presented in the last section, Eberhardt was also interested in the possibility that if people carry this association around in their head, they do so unconsciously, despite explicit avowals that they are not at all racist. And if they carry this association around unconsciously, how does it impact upon their judgments and actions?

In one experiment with both Caucasian and non-Caucasian subjects, Eberhardt used a technique called subliminal priming. Subliminal priming involves rapidly presenting pictures, sounds or other experiences under the radar of awareness and then presenting material that falls within our radar. If the two experiences are similar, the unconscious version affects subjects' perception of the conscious one. For example, if you first prime people by flashing the picture of a woman's face, subjects then respond faster to faces of women than to faces of men. In other words, despite the fact that subjects are unaware of the prime, it affects their judgments. Eberhardt first primed subjects with photographed faces of Caucasian or Black people or an unrecognizable non-face. They then watched a short movie that started off with an unrecognizable object that looked like it was covered by dense snow. As the movie progressed, the snow lifted, making it easier to recognize the object as a line drawing of either a duck, dolphin, alligator, squirrel or ape. Subjects stopped the movie as soon as they recognized the animal.

Compared with Caucasian faces and non-faces, priming with Black faces caused subjects to stop the movie much *sooner* for apes, but not for any other animal. Compared with non-faces, priming with Caucasian faces caused subjects to stop the movie much *later* for apes, but not for any other animal. This suggests that Black faces made it easier to identify apes, whereas Caucasian faces made it harder to identify apes, with no comparable effects for any other animals. Caucasian and non-Caucasian subjects showed the same pattern of response, and so too did individuals with and without strong, explicit racial attitudes. Although the similarity among Caucasian and non-Caucasian subjects is of interest, and suggests that the association is held even among those who were perhaps less strongly associated with this form of dehumanization, there were relatively few Black subjects in this non-Caucasian group. This first set of experiments suggests, therefore, that among a racially heterogeneous group of educated Stanford undergraduates, individuals carry an unconscious association between Black people and apes, and thus, an unconsciously dehumanized representation of another human being. Given the animal form of this dehumanization, the implication from Haslam's work is that Caucasians associate Blacks with less rationality, civility, and self-control, in essence, less uniquely human qualities.

These are remarkable and disturbing findings. They can't be explained by some superficial similarity between human faces and animals because Eberhardt found the same results when she presented either line drawings or words of animals. Had Eberhardt used actual photographs of animals, subjects could have used similarity in skin color or nose shape — for example, seeing a black human face would prime seeing a black ape face because both have the color black in common. Line drawings and written words cut the legs out of this account. Eberhardt's results suggest that apes are associated with the socio-cultural, racial category "Black."

These findings reveal a deep seated, dehumanized representation that is readily triggered even in highly educated people. But perhaps they are less disturbing then we might imagine. not so bad if the take home message is that we are closet racists with antiquated theories of evolution or God's design. Outside of these artificial studies, we are well educated citizens who keep our isms tucked away, locked up in our unconscious. Unfortunately, the unsettling feelings that many will have to these studies are exacerbated by an additional set of results collected by Eberhardt, linking unconscious impressions to harmful actions. Caucasian male subjects watched a video of a policeman using force to subdue a suspect who was either Black or Caucasian. When primed with an ape drawing, but not that of a tiger, subjects were more likely to say that the policeman was *justified* in subduing the Black suspect than the Caucasian suspect. We are more than closet racists. We are out of the closet, armed for prejudice and dehumanization.

To unconsciously think that Blacks are more like apes than other racial groups is to strip them of characteristics that are uniquely human. As Haslam notes, when we dehumanize others in this particular way, we no longer see them as human, but as incompetent wild animals or immature children lacking in intelligence, etiquette, rationality, and moral wherewithal. This mode of dehumanization is ancient, reflected in the writings and paintings of European explorers who encountered indigenous cultures in Asia, Australia, and Africa. Dehumanizing others into objects is equally ancient, unflattering and dangerous. In one study, American adults were told to focus on either the physical appearance or personality of the actress Angelina Jolie and the ex-governor of Alaska and presidential hopeful Sarah Palin — both famous personalities within the United States. When subjects focused on appearance as opposed to personality, they judged both Jolie and Palin as relatively lacking in traits of experience or human nature. Jolie and Palin were seen as objects. In other studies, carried out by Haslam, subjects judged objectified men and women as less capable of suffering and less deserving of moral compassion and protection, reinforcing the age old attitude we once held toward slaves, and that many hold today toward prostitutes. When people become property, they fall outside of the circle of moral patients. Studies of the brain provide further support for these dehumanizing transformations, and highlight, once again, both the beneficial and malignant consequences of our mind's promiscuity.

### *Brains without borders*

Dehumanization enables doctors to treat their patients — human or nonhuman animal — as mechanical devices that require repair. This allows for cool-headed, rational, and skillful surgeries, while fending off the humanizing emotions of compassion and empathy. This is adaptive. This is a transformation that enables doctors working in war-torn areas or regions afflicted with a disease outbreak, to treat hundreds of suffering patients as if they were treating inert cars on an assembly line. Good doctors allow their compassion and empathy to return as their patients regain awareness. Bad doctors maintain their cool, detached manner, insensitive to the physical and psychological pain of their waking patients. Bad doctors continue to perceive their patients like cars on the assembly line. Really bad doctors see their patients like cars that were created for personal R&D.

Recall from earlier sections that when we see someone else in pain, particular areas of the brain activate as we imagine their suffering. Many of the same areas of the brain also activate when we personally experience pain. This is the circuitry for pain empathy. The French cognitive neuroscientist Jean Decety showed that when physicians look at video clips of people experiencing pain from a needle prick, this circuit is suppressed relative to non-physicians. For physicians, it's as if they were watching a needle prick a pillow. Though we don't know how much experience was necessary or sufficient to cause the physician's lack of pain empathy, or the extent to which physicians are physicians because they were born with less empathy, Decety's findings point to individual differences in our capacity to feel what others feel and the potential modulating role of experience.

Several studies now show that based on individual experience, the human brain readily flip-flops between empathy and callousness. In two similarly designed experiments, one recording from pain related areas in the brain, and the other from a motor area associated with the hand, Caucasian and Black subjects watched a video of a needle penetrating a human hand. Consistently, subjects showed weaker activation in the pain and motor areas when watching the needle penetrate the hand from another race. This lowering of pain empathy and motor response for the out-group was greatest for subjects with the highest implicit or unconscious racial biases, as measured with the IAT tool noted earlier.

These studies of the brain, like the behavioral studies I discussed earlier, add to the idea that we have a racial bias for pain empathy. We feel others' pain, but only for those who share the same race. But since, by definition, we look more like those from within our racial group than those outside it, perhaps the bias is less about race and more about those that don't look like us. To explore this possibility, Black and Caucasian subjects saw a needle penetrate a violet-colored hand. Violet hands are not only different, but far more different than either black or white hands in terms of our experience of skin coloration. Nonetheless, the activation pattern in the brain matched the subject's own race. When we feel less compassion for someone of another race, it is because of racial biases, not because of superficial differences in appearance. Color is simply a cue that reminds us of our prejudice.

The fact that we feel less empathy for people in pain if they fall outside our inner sanctum suggests that we have dehumanized them, stripping away dimensions of experience that humanize those within the sanctum. These are the dimensions associated with emotion, and when taken away, cause us to perceive the other as an object. Since objects can't feel pain or joy, we can't share in their experience because they lack experience altogether. If that is the case, then when we perceive any human group that has been dehumanized in this particular way, there should be little to no activity in those areas of the brain associated with thinking, feeling, wanting, and believing. To explore this possibility, the social psychologist Susan Fiske placed subjects in a brain scanner and presented photographs of either extreme out-group members, such as the homeless and drug addicts, or photographs of other groups such as the elderly, middle-class Americans, and the rich. When viewing the extreme out-group, not only did Fiske see little activity in an area critically related to self-awareness and the process of thinking about others thoughts and emotions — the medial prefrontal cortex — but she also observed an intense increase of activity in the insula, a brain area that is recruited when we experience disgust.

Fiske's results highlight the dangers of dehumanization. Once we turn off areas of the brain that are involved in thinking about others' thoughts and emotions, and turn on areas involved in disgust, we have set ourselves up for moral disengagement. As the distinguished American psychologist Albert Bandura has documented through decades of research, moral disengagement allows people to justify harm by transforming lethal motives into morally justified and even benevolent ones. Moral disengagement allows us to excuse ourselves from moral responsibility, either disregarding the harm imposed or convincing ourselves that it was justified, even obligatory. In several international studies of school-aged children, results consistently show that those who are most morally disengaged are most likely to engage in various forms of aggression, including bullying and repeated criminal offenses. These same children are also least likely to engage in helpful behavior, revealing that moral disengagement dispenses with the typical process of self-censure and sanctioning that we carry around when we are morally engaged. In a study of American prison personnel involved in death penalty sentences, executioners were more morally disengaged than support staff or prison guards. Executioners were more likely to dehumanize the convicted prisoner and provide moral and economic justifications. Executioners also felt less guilt because they had developed a narrative to justify their actions, one that ascribed complete fault and responsibility to the victim. Support staff flipped in the opposite direction, fully involved with the weighty moral issues associated with ending someone's life. In a study of people's political attitudes, those with strong right wing authoritarian views, commonly associated with fascism and submission to authority, were more likely to support war by means of morally disengaging. In particular, they were most likely to support war by justifying its necessity and trivializing the harm that will necessarily arise — for example, invading another country is not aggressive, but designed as a pre-emptive strike to protect group interests.

Moral disengagement enables behaviors that are either immoral, illegal, or counter to deeply rooted intuitive prohibitions against harming others. It is a process that has the beneficial consequence of empowering soldiers to go to war under just causes, as well as the toxic consequence of empowering rogue leaders to carry out genocide under unjust causes. It is a process that allows us to hibernate from our moral responsibilities. It is a form of self-deception, a partner to dehumanization in the denial of reality. But self-deception, like deception of others, is not always harmful. In fact, it is often highly adaptive.

### *Angelic denial*

In a nationally televised address in 2005, the Iranian President Mahmoud Ahmadinejad pronounced that the Jews had "created a myth in the name of the Holocaust and consider it above God, religion and the prophets." Judge Daniel Schreber believed that his brain was softening and that he was turning into a woman in order to form a sexual union with God. During a doctor's visit, a man reported that his pet poodle had been replaced by an impostor, masquerading *as if* he was the real deal. Judge Patrick Couwenberg stated under oath that he received the Purple Heart for military operations in Vietnam, and soon thereafter carried out covert missions in Southeast Asia and Africa as a CIA agent. The pilots of Air Florida flight 90 ignored signs from their dashboard indicating engine trouble and then proceeded to crash into a bridge, killing 74 of the 79 people on board. In 2008, while Hilary Clinton was running for President of the United States, she regaled admiring supporters with stories of her international experience, including her visit to Bosnia in 1996 where her plane was forced to land "under sniper fire", followed by a rapid evacuation for cover. When I was a teenager, I often walked onto the tennis court thinking that I was John McEnroe, serving and volleying like the world's number one player.

Each case above tells the story of a person who acted as if the world was one way even though it wasn't. The Holocaust and its trail of atrocities were real, confirmed by thousands of scarred survivors and the relatives who have heard their accounts. Judge Couwenberg was never in Vietnam, never earned a Purple Heart, and never had a connection with the CIA. There are no pet poodle impostors. Our brains don't soften, though they do deteriorate with age. When dashboard indicators suggest engine trouble, better to be safe than sorry when you are responsible for the lives of many people. Hilary Clinton landed in the exceptionally *safe* airport of Tuzla where she was *warmly* greeted by US and Bosnian officials. I am no McEnroe.

In each of these cases, there was a mismatch with reality. The person harbored a false belief, but believed it was true. In some cases, the mismatch was due to psychosis, some kind of delusion or malfunctioning of the brain. These people didn't know that their beliefs were false. In other cases, the mismatch resulted from an intentional lie or distortion, a process that is adaptive, designed to promote self-confidence and manipulate others. When I conjured up images of McEnroe, I momentarily deceived myself. I believed it helped my game. I never thought I was McEnroe. I carried my self-deception honestly. When Hilary Clinton misreported her trip to Bosnia, perhaps she misremembered or perhaps she distorted her memory to convince voters that she had what was necessary to run the country — toughness and international experience. Unfortunately for Clinton, her comment about Bosnia was accompanied by other distortions, which led the American essayist William Safire to write "Americans of all political persuasions are coming to the sad realization that our First Lady... is a congenital liar."

Some cases of self-deception are harmless and even beneficial, as in my illusion of tennis grandeur. Others are only mildly harmful, as in Clinton's distortion of her political experiences. And yet others are deeply harmful, as when leaders such as Ahmadinejad deny the suffering of millions. The problem is that anyone can harness the power of self-deception for ill gotten gains.

Why does our mind play tricks on us, allowing us to believe things that are false? Why didn't evolution endow us with a reality checking device that is vigilant 24/7? The answer here parallels the refrain carried throughout this book: like its evil sister dehumanization, self-deception is Janus-faced, showing both an adaptive and maladaptive side. Self-deception allows us to protect ourselves from the reality of a current predicament or loss. Self-deception allows us to provide a better personal marketing brand to defeat our competitors in attracting mates and garnering other resources. Self-deception may even be critical to the functioning of a healthy and safe society: in a study of male criminal offenders, those with the lowest levels of self-deception with respect to their own self-worth showed the highest levels of recidivism. There is, however, a fine balancing act, revealing the slippery slope from adaptive to maladaptive: as studies by Roy Baumeister reveal, individuals with the highest self-esteem and the most overblown sense of themselves are also the ones most likely to lash out with extreme violence when someone threatens the reality of their stature.

The evolutionary biologist Robert Trivers was the first to identify the adaptive significance of self-deception and its connection to deception. As he insightfully notes in his book *The Folly of Fools,* what appears completely irrational about self-deception evolved as a consequence of selection to deceive competitors: "To fool others we might be tempted to reorganize information internally in all sorts of improbable ways and to do so largely unconsciously." The most effective self-deceiver acts without any sense of his true motives. He is on autopilot, driven by a purely self-interested mind. No checks and balances. Here, I build on this idea. I will show you how studies of pathology and healthy brain function illuminate the mental chicaneries that lead us down the road to self-deception. As with the dangers of dehumanization and its role in denying reality, so too is self-deception a dangerous state of mind, allowing individuals to inflict great harm while feeling aligned with the angels.

What did William Safire have in mind when he called Hilary Clinton a congenital liar? Congenital refers to a trait that is present in utero, at birth or soon thereafter. Congenital disorders, diseases, or anomalies typically refer to defects caused by a combination of genetic and environmental problems. A cleft lip is an example of a congenital anomaly, one that appears at birth as a gap in the upper lip. Because we don't have detailed records of Hilary Clinton's life as a child, it is hard to say whether her lying was congenital in the same way that a hair lip is congenital. We can rule out the *in utero* and *at birth* periods because Hilary, like all other children, was not born speaking or lying. These capacities mature. That she developed a tendency to exaggerate and distort is consistent with other reports. She falsely claimed that she was centrally involved in the creation of a Children's Health Insurance Program, an initiative that was actually created by Senators Ted Kennedy and Orin Hatch. She also claimed that she played a significant role in the Good Friday Agreement for Northern Ireland, a comment that Nobel laureate Lord William David Trimble described as "a wee bit silly." When Safire described Clinton as a congenital liar, what he was referring to was the habitual pattern of fabrication. When patterns of the mind become habits, they are hard to break. Each distortion, rehearsed over and over, becomes part of the fabric of truth. It is a life story that starts as fiction and ends up as non-fiction in the mind of the story-teller. We can begin to understand this transformation by looking at the clinician's notebook.

For more than 100 years, psychiatrists have described a syndrome known as *pathological lying*. If lying is pathological, it must deviate from some norm. The psychiatrist Charles Dike sums up the essence of this disorder:

> Pathological liars can believe their lies to the extent that, at least to others, the belief may appear to be delusional; they generally have sound judgment in other matters; it is questionable whether pathological lying is always a conscious act and whether pathological liars always have control over their lies; an external reason for lying (such as financial gain) often appears absent and the internal or psychological purpose for lying is often unclear; the lies in pathological lying are often unplanned and rather impulsive; the pathological liar may become a prisoner of his or her lies; the desired personality of the pathological liar may overwhelm the actual one; pathological lying may sometimes be associated with criminal behavior; the pathological liar may acknowledge, at least in part, the falseness of the tales when energetically challenged; and, in pathological lying, telling lies may often seem to be an end in itself.

What seems most critical to the pathology is the lack of control which leads to repetitive lying over a long period of time. Compared with run of the mill liars, pathological liars often seem unaware that they are lying and do so many times a day as part of their daily habit. In the same way that birds have to fly and fish have to swim, pathological liars have to lie. If pathological liars are unaware of their lies and incapable of controlling themselves, then they are not responsible for the harm they impose. They have no choice. Unbeknownst to them, their brain has been hijacked by a creative fiction writer. They are following a script, but have no sense of its author.

Dike's summary is based on a loose and eclectic set of clinical observations. Several clinicians thus debate whether habitual lying counts as pathology and thus, whether it is worthy of an entry into the *Diagnostic and Statistical Manual of Mental Disorders*. For example, how can the clinician establish pathology given the evidence that healthy people lie about twice a day, physicians lie about 40-80% of the time to help their patients gain better health care, and lying within an experimental context increases as subjects generate more lies? My own sense is that despite the difficulty of defining the pathology with precision, clinicians have identified individuals that lie with every breath and often identify psychopaths by their calculated conning. These observations sharpen our approach to understanding the seeds of deceit and self-deception in the non-pathological condition. For example, does excessive and sustained lying stem from a specific problem associated with recognizing the truth or does it grow from a more general problem with self-control? Or, does the habitual liar suffer from an emotional deficit such that when he or she lies, there are no feelings of guilt and shame? Without these emotional regulators, it is impossible to learn from the harm caused. When healthy people distort the truth, they often feel bad. When healthy people think about distorting the truth, they often think about the potential harm and then silence the option to lie in favor of the truth. Perhaps unhealthy people never hear these emotional alarms. The mind sciences have begun addressing these issues.

The American neuroscientist Adrian Raine reported that individuals with a history of repeated lying and con-artistry have structurally different brains from non-liars, including individuals with a history of anti-social problems. Habitual liars have more white matter in the frontal lobes, but less grey matter. White matter consists of axons and myelin. The axon is the part of a nerve cell that carries information. It is like the electric cable that runs from the power station. Myelin covers the axon, at least in healthy individuals. It is like the fat around your bones, protecting and insulating neurons. Fat helps keep us warm. Myelin helps neurons transmit information. The grey matter consists of nerve cell bodies, which lack myelin. The function of grey matter is to connect up the neurons to transmit information between areas of the brain.

Raine suggests that the increase in white matter gives habitual liars the upper hand when it comes to lying, helping them suppress the truth, control their emotions, and mind read what others believe and desire. The decrease in gray matter allows habitual liars to lie without feeling guilty. The messaging center that sends healthy subjects moral reminders about the virtues of truth, is shut down or barely audible within the mind of a pathological liar. The brain of a pathological liar allows for the ultimate poker face. The brain of a healthy individual allows us to perfect the poker face by repeating a distorted narrative, converting a lie into a self-justified truth. This is dangerous denial.

When we lie, either to manipulate someone else or ourselves, we distort the truth. We can either do this on the fly or use a narrative held in long-term memory. When Hilary Clinton told her supporters that she had to dodge bullets in Bosnia, she either lied in the moment to convey a stronger image or she developed this distortion over a long period of time. In the first instance, she knew that her comment about Bosnia was false. She was deceptive, but not self-deceived. In the second case, she was self-deceived and most likely unaware. Her narrative was so clear that she could picture running for cover without the usual welcoming party. Several studies now reveal that both forms of lying engage brain areas associated with self-control and conflict— the right backside of the prefrontal cortex and the anterior cingulate. This makes sense. To tell a lie, either to oneself or another, requires controlling what we know about reality to convey an alternative reality. When we hold both versions of this narrative in mind, there is conflict. As we rehearse one version more than the other, the conflict dissipates. The more we rehearse, the more we push this narrative into long term memory. The more we push this narrative into long term memory, the more it becomes part of what we believe is true. The more we believe it is true, the more we hold onto a narrative that can be used to justify our actions.

The imaging results fit well with our understanding of which brain regions are involved in self-control, conflict, memory, and social knowledge. To understand which regions are either necessary or sufficient for representing truths and lies, we turn to a technique called *transcranial direct current stimulation*. This method allows researchers to safely increase or decrease activity in a brain area through electrical stimulation. Think of this technique as a volume knob on an old fashioned radio. Turn it clockwise and you amplify the signal. Turn it counter-clockwise and you quiet the signal. When the German neuroscientist Ahmed Karim and his colleagues applied this technique to the right backside of the prefrontal cortex, and decreased activity, healthy subjects were better at telling lies, lied without guilt, and were less stressed out as measured by the sweatiness of their skin. This pattern mirrors the natural state of pathological liars. Absent the circuitry in the brain that exerts self-control over our distortions, Karim turned healthy subjects into conscience-free, poker-faced, liars.

If self-deception and deception are not only part of normal brain function, but adaptive processes, then what makes this system turn toxic? What tips the brain over to the dark side, allowing self-deceptive illusions to empower the individuals and groups to cause great harm?

### *I am God!*

Across the globe, in Eastern and Western cultures, clinicians have reported a consistent pattern of psychotic delusion, typically associated with schizophrenia: many believe that they are God, God's messenger, or the Devil, equipped with extraordinary, invincible powers. This is the same disorder that led the Australian gentleman we encountered at the start of this chapter to believe that he had two heads and heard the voices of Jesus and Abraham. Estimates reveal a greater number of cases among Catholic than Islamic or Protestant societies, and the fewest among Hindu societies, although experts are uncertain as to why such particular biases exist. The interesting point is that there are individual differences in the expression of religious delusions that are at least partially mediated by the particular beliefs and customs of the religion. Religious delusions are also held with greater conviction than other delusions, more resistant to change, and often result in self-mutilation or harming others; when harm occurs, it follows the narrative from a religious text, plucking out eyes or cutting off genitals as the means to cleansing sins.

What makes religious delusions like these, in which the individual has created a narrative of supreme confidence and power, different from non-delusional, non-psychotic forms of distortion? In a Gallup poll, 10% of the Americans surveyed claimed they had spoken with the devil. In several psychological experiments, healthy non-psychotic subjects consistently report that they are smarter than most, more attractive, and more likely to win than lose an athletic competition. Though some of these people are correct — they are in fact smarter, more attractive, and better competitors — most are wrong and yet believe they are right. What this research reveals is that we all suffer, some more than others, from positive illusions — biases that distort our sense of confidence, control, and invincibility These illusions differ from delusions in that they are less fixed, more flexible, and more amenable to change. Delusions are highly maladaptive, a signature of brain dysfunction, and the source of great suffering. Positive illusions, in contrast, are often highly adaptive, generating the confidence necessary to take on great challenges and challengers, convincing an audience or a group of opponents that we are stronger, smarter, and sexier. Positive illusions have been linked to direct mental and physical health benefits, including evidence that distorted optimism can slow disease progression. Positive illusions are, as noted by the biologists Richard Wrangham, Robert Trivers, and Dominic Johnson, a form of self-deception with considerable evolutionary benefits. But like the runaway capacity of desire, so too can our illusions of grandeur runaway. When this occurs, illusion and delusion are virtually indistinguishable. What was once a narrative centered on the grandiose belief of being *god-like* has been transformed into the belief of being *God*, leading individuals and groups to engage in extreme extortion or violence, not only blind to obvious risks but incredulous that there would be any risks. This is denial. This is another way in which we close off our senses to reality in order to create our own imagined reality. How does this process get started?

It is not until the age of about 18-24 months that we acquire the ability to recognize ourselves in a mirror. It is not until a couple of years later that we have a sense that our own beliefs can sometimes differ from others that we interact with. It is not until this time that we develop the capacity to deceive, along with a powerful suite of social emotions that enable us to feel embarrassed, envious, and elated. These feelings link up our sense of self with our sense of others. These are comparative feelings and beliefs, and they feed back to who we are, either building up our self-confidence or crushing it. When my daughter Sofia was ten years old, she announced that she will one day go to Brown University — attracted by their course offerings and the fact that Emma Watson, aka Hermione Granger of Harry Potter fame, was a student — be rich and have five children — she wanted more siblings and has always had a taste for the luxurious — obtain a veterinarian degree — my wife is a veterinarian and we have five pets — open a restaurant — I love to cook — and be an Olympian in gymnastics — sports run in our family. Sofia was not delusional, but brimming with uncalibrated confidence. Her confidence was uncalibrated because she had no sense of what it takes to get into Brown, become rich, take care of five kids, obtain a vet degree, open a restaurant, and win gold. My wife and I would be horrid parents if we burst her bubble. We would be irresponsible parents if we didn't, over time, describe the exciting challenges associated with each of these desirable goals.

Developing a sense of self depends on at least two capacities: looking inwards at what we know and are capable of doing, and looking outwards at what others know and are capable of doing. When we look inwards, if we honestly open our eyes to the richness of our autobiography, we will recognize cases where we have succeeded and those in which we have failed. This history reveals our knowledge and ignorance, our strengths and weaknesses, and our capacity to exert control or meld to external forces. When we look outwards, again with an honest, panoramic perspective, we learn about those who know more or less than we do, about those we can outcompete and those we lose to in defeat, and about situations that undermine our capacity for self-control. Distortion enters these personal narratives when we either lack information or filter it in some way, consciously or unconsciously.

The British criminology scholar Mandeep Dhami examined positive illusions in criminals incarcerated in prisons within the United States and the United Kingdom. Because recidivism levels are high among convicted criminals, with 40-60% of offenders re-convicted after 1-3 years from release, it is important to understand risk factors. One possibility is that criminals believe that their prior offense was just a one-off event or bad luck, and that, of course, they will never engage in crime again, having learned their lesson and feeling fully confident in their capacity to lead a crime-free life. Based on a sample of over 500 prisoners from medium security prisons, 60-80% believed that they would find a place to live as well as employment once released, whereas less than 30% felt that they would commit another crime. Prisoners also felt that they were much less likely to commit another crime than other prisoners. Thus, whether prisoners were evaluating their own chances of success or their success relative to others, they were living with a distorted narrative. The shorter the criminal record, the more distorted the narrative. Repeated experience with crime appears to anchor the narrative in a more realistic assessment of the future.

Certain experiences can also enhance positive illusions by giving individuals an unrealistic sense of self-control, along with a distorted expectation that future outcomes are highly deterministic. For example, people who are wealthy, highly educated, part of a dominant group, or citizens within a society that values independence, are more likely to believe that they have control over the future and are more likely to express optimism and high self-esteem. These attitudes often lead to a boosted sense of control and an illusory sense of control over future outcomes. The American psychologist Nathanael Fast ran a series of experiments to further explore the relationship between power and illusory control, specifically asking whether subjects endowed with power expect control over outcomes that are strictly due to chance or that are unrelated to the domain of power. Across each study, whether subjects recalled a personal situation where they were in power or had to imagine being in power, they were more likely than those in a subordinate position to express confidence about the outcome of rolling a six-sided die, predicting the future of a company, and influencing the results of a national election. Power and winning distort, a tale that has been told and retold countless times in the annals of industry and warfare. As the American business administration scholars Francesca Gino and Gary Pisano note, the business world is full of cases where leaders and leading companies crash because they fail to examine the causes of success. They assume, for example, that their success is entirely due to their brilliance, control over the market, and the weakness of the competition, as opposed to a shot of good luck. So too goes the story of unexamined war victories, as supremely confident generals discount relevant information about their opponents, leading battalions on a death march. Our willingness to accept victories without question stands in direct contrast with our motivation to scrutinize failures, drilling down for explanations or causes. When we lose or fail in some way, the negative emotions accompanying this experience focus our attention on working out an explanation. When we win, we bask in the glory, fueled by the brain's chemicals and the body's hormones. This physiological orchestration sets up the positive illusion of overconfidence, a winning card in many competitive arenas, and a disaster in others.

Recall from chapter 1 that our brains, and the brains of other animals, are configured to reward victory with a cascade of hormonal and neurobiological changes. Winning delivers a shot of testosterone, and so too does observing others win. Winning also delivers a shot of dopamine, further generating a honey hit to the brain when we shine. There is evidence that schizophrenia is associated with a dysfunctional dopamine system, which might help explain the overconfidence in their beliefs, especially beliefs in powerful religious icons. Winning boosts confidence, which increases the chances of winning again. This is a highly adaptive cycle that can lead to overconfidence.

Dominic Johnson took advantage of the research on human and animal competition to explore the link between overconfidence, testosterone, and war within the context of a simulated game. Each subject played the role of a leader in a country at war with another over diamond resources. The goal of the game was to accrue the highest level of resources or defeat the neighboring country. Though war games on a computer can not capture the full reality of war, the fact is that military specialists throughout the world use simulations to prepare combatants for some of the strategic and emotional problems they will confront.

Most subjects judged that they would outcompete their opponents, and this was exacerbated in males relative to females. Those who believed that they would whip their opponents actually had the worst records, suggesting that they were not only uncalibrated but that their distortion of reality led to costly outcomes. Those with the highest expectation of victory had the highest testosterone levels and were most likely to launch unprovoked attacks on their opponents.

Whether in real life or in the simulated world of computer games, brimming overconfidence can lead to a distorted sense of risk and the odds of victory in war — or any competitive arena. Though this is a costly strategy, there are clear evolutionary benefits under conditions explained by Trivers and Johnson. Self-deception is favored when opponents have imperfect information about their strengths and weaknesses, and where the payoffs are high relative to the costs. Self-deception leads individuals to go for it, convincing themselves and others that the risks are low, the gains are great, and the standard social norms are no longer applicable. This is a dangerous form of denial, recruiting moral disengagement to justify horrific means and ends. This is a piece of the psychology that can facilitate the process of runaway desire. This is a piece of the psychology that enables individuals to cause great harms.

My goal in this book has been to find the universal core of evil, the elements or ingredients that are shared across all cases of evil. My suggestion is that the mixture of desire and denial are both necessary and sufficient ingredients in the recipe for evil. All other ingredients are flourishes, creative additions that do not take away from the universal core. Within each of us is a recipe for causing excessive harm and for expressing exceptional compassion. We have choices. But as evidence accumulates from the sciences, it has become increasingly clear that some of us have fewer choices than others. Some of us are equipped to resist the temptations of a culture of evil, while others fall prey. This is the story of our species. This is our story.

# Endnotes: Chapter 3

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# Chapter 4:
# Wicked in waiting

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> The wicked are estranged from the womb: they go astray as soon as they be born, speaking lies.
>
> —***Bible, Psalm 53:8***

Growing up is a lottery. No one has a say over their genes or their parents, including the environment that is created on their behalf. For individuals raised in poverty, abused by parents or abandoned by them, there may come a time when it is possible to purge the past, rise above it, and lay down new tracks. Success in this endeavor depends upon biological potential and the environment's toxicity. Though every healthy human being acquires the same basic biological ingredients, individual differences in how our biology expresses itself can either provide immunity against toxic environments or deep vulnerabilities. The unlucky ones inherit genes that predispose to sensation-seeking and risk-taking, callous and unemotional attitudes toward others, weak self-control, and narcissistic leanings. With this lottery ticket, it takes little to trigger the mindset of an evildoer. And yet some resist. An impressive accumulation of scientific evidence helps explain the source of these individual differences, including its role in sculpting different personality profiles that either deviate greatly from societal norms or follow them to perfection.

### *What's normal?*

Much of our fascination with evil stems from the distinct impression that evildoers are anomalies. Their actions are inhuman, unimaginable, rarely witnessed, and detrimental to our species' survival. This impression carries with it an assumption about what is expected or typical of our species, as well as what is possible. It assumes that evildoers have thoughts, feelings, and desires that fall outside of the repertoire of an average human being. Their actions are unimaginable because most human minds lack the capacity to imagine butchering human bodies. Like so many simple claims that go unchallenged, we should be puzzled by this one. We should ask: what's normal?

The evolutionary history of each species' brain does not provide a complete account of what the brain can do. Consider again a topic from chapter 1: domesticated dogs and their ancestors, the wolves. Though dogs live with humans, and are often raised by them, they never acquire a human language. In this sense, the domesticated dog is just like the wolf. But what dogs can do, with greater facility than any wild wolf, is understand a variety of human gestures such as pointing and the movement of our eyes. This capacity emerged following a period of human domestication. Wolves were not part of this selective regime. But, and this is the most interesting twist in the story, wolf puppies raised by human caretakers develop into adults that can read pointing and looking extremely well. This tells us that even wolves evolved the potential to read human gestures, but only human environments favor this skill. This tells us that what animals express is not necessarily indicative of their potential. To uncover their potential, we must alter the environment or wait for such changes to happen naturally.

When we ask *What's normal*?, we are asking two questions: what is the evolved repertoire and what is the evolved capacity? The evolved repertoire tells us something about the relationship between a species' biology and the environments that have shaped their behavior. The evolved capacity tells us about a reservoir of behaviors that may only emerge in novel environments.

What's normal human behavior? The same distinctions apply to us as to dogs and wolves, with the extra complication that our species adds because of historical twists and turns orchestrated by legal, political, ethical, religious, and medical points of view. History presents us with hundreds of cases where an accepted normal mutated into abnormal, or where abnormal transformed into normal. During the Italian Baroque — a period of decadence that started in the late 16th century and ended in the early 18th century — some 500,000 boys were castrated in order to freeze their youthful voices for the enjoyment of others. These castrati formed an essential part of music culture, of what people expected and wanted. For many of these young boys, not only did castration end their reproductive careers, but often, their lives.

As the 18th century drew to a close, so too did castration in the name of art. What was normal then is perceived as abnormal and heinous today. The same story can be told for other sexual practices, including female genital mutilation, circumcision, and homosexuality. In the United States, homosexuality was considered a disease before the 1970s, with its own entry in the *Diagnostic and Statistical Manual of Mental Disorders*. Thanks to an underground movement of gay psychiatrists and the work of Evelyn Hooker who discovered that the manual's classification entry was based entirely on clinical interviews of gay prisoners, homosexuality has been freed from its jail sentence as a mental disease — as abnormal.

When clinicians diagnose individuals with a mental disorder, they are making a statement about deviance, about what falls within and outside the range of normal mental states. Unfortunately, there are no clear categories, no bright lines separating normal from abnormal or uncommon. As the distinguished American psychologist William James noted, however, studying "the abnormal is the best way to understand the normal." Let's follow this logic.

Consider the developmental disorder of autism. This disorder, typified by difficulties understanding what others believe and feel, ranges from individuals who appear locked out of the world, rocking back and forth to their own internal rhythm, to high functioning individuals such as Professor Temple Grandin, who not only teaches college-level courses, but has done wonders as a spokesperson for autism and for the animal welfare movement. This range already tells us that autism is represented by a spectrum, once identified by purely behavioral measures, but joined today by genetic and neurobiological markers. The genetic evidence is particularly helpful for explaining the observed variation. For example, the MAOA gene, located on the X chromosome, is involved in the regulation of social behavior and has different forms that map to differences in brain activity and stress physiology. The different forms correspond to the number of copies of the genetic material. This copy number is, in turn, partially responsible for the spectrum of autism observed, especially the degree of social dysfunction, including stress and aggression. Once we admit to a spectrum, and begin to pinpoint the factors that push individuals to stand on one end or the other, we must admit to admitting virtually everyone onto this spectrum. All of us, at some point in our life, have lacked sensitivity to the feelings and beliefs of others. All of us have been self-absorbed and locked out from the rest of the world. All of us have failed to express empathy and compassion to others. All of us have been a bit abnormal in this sense. All of us fall, on occasion, within the spectrum of autism as well as other disorders of the mind such as psychopathy.

Like autism, psychopathy is not one neat and tidy disorder, but a spectrum. Diagnostically, psychopaths are impulsive, narcissistic, and lacking in social emotions such as empathy, remorse, and guilt. These behaviorally defined characteristics are complimented by genetic and neurobiological markers, some pointing to risks in the pre-school years, and linked to the same MAOA gene noted above. The spectrum that defines psychopaths ranges from hyper-smart, calculating, and powerful politicians to low IQ, downtrodden, serial murderers. Everyone of us occasionally shows our psychopathic face: self-absorbed, impatient, manipulative, and uncaring. What is abnormal, then, is living with these characteristics, all the time. Clinically diagnosed psychopaths, like clinically diagnosed individuals with autism, have the characteristic traits as stable components of their personality. An honest clinician will tell you, however, that stability is difficult to define, and so too are the essential traits. An honest brain scientist will also tell you that, despite the observation that psychopaths have hyperactive dopamine brain circuits that may drive sensation seeking, along with smaller frontal lobe circuits that may minimize their sensitivity to punishment and the capacity for self-control, these differences are statistical. What "statistical" means is that if you were to stack up all of the brains with hyperactive dopamine circuits and smaller frontal lobes into one pile, most, but not all would be from psychopaths. You would also find psychopaths in the pile of brains showing normal dopamine activity and average-sized frontal lobes. These brain differences are interesting, but they are not yet like fingerprints, absolutely and uniquely distinctive and diagnostic of a disorder. Such honesty reveals the challenges we face in answering the simple question *What's normal?*

Lawyers, judges and juries face the same problem as clinicians, often relying upon documents such as the DSM to determine when someone has acted outside the range of normal behavior. But for legal cases, there are two relevant layers of the normalcy problem. The first concerns whether the supposed criminal was sane or insane. An insanity defense requires evidence of a disease or defect of the mind. It requires evidence that the individual lacked the capacity to appreciate the criminal nature of the act as well as the capacity to conform. This is the part that relies on the DSM, as well as clinicians who can testify based on their expertise. The second concerns a more general understanding of what a prototypical or normal human would or could do in a given situation. The idea seems straightforward enough, but as I mentioned above, is only deceptively straightforward.

Crimes of passion provide a useful illustration of the challenges we face, especially with respect to understanding how harm is ignited in the face of moral norms against it. Highlighting the truism that love makes you crazy, the crime of passion defense is invoked for cases where, in the heat of the moment, an individual finds and kills his or her spouse in bed with a lover. The defining feature of a crime of passion is that it was not planned and *most* people faced with the same situation would act similarly, unable to control their emotions.

The crime of passion defense seems straightforward. Like autism and psychopathy, however, it too relies upon a diagnosis of what a prototypical or average person *would* do in the same situation. This diagnosis requires an understanding of two difficult mental states: planning and self-control. Planning involves imagining the future, time traveling to a new world, dreaming up what we might do and how we might feel. We plan in the short and long term, filling up our mental sticky notes with to-do lists. Self-control enters into planning because what we imagine for ourselves — what we desire — is often inappropriate or unethical because it harms others or ourselves. As noted in chapters 2 and 3, the capacity to keep desire in check relies on moral engagement. Moral engagement requires self-control. Moral disengagement requires denial in order to loosen the grip of self-control and enable desire to have its way.

When Lorena Bobbitt cut off her husband John Bobbitt's penis, she fulfilled her desire to harm another. She carried out this gruesome act despite the moral and legal sanctions against it. But she did not plan this act in advance, and nor did it occur in the heat of the moment, triggered by finding her husband in bed with a lover. It followed in the wake of his repeated philandering, attempted rape and psychological abuse. As an act, it fell between the cracks of a long-term plan and a reflexive response — it was hatched on the night of the fatal attack, triggered by seeing a carving knife in the kitchen. Lorena either lost self-control for that fatal moment or she was in complete control, aware of what she was about to do and justified by her own moral convictions, believing that harming John was just deserts. John was most definitely not innocent. The jury delivered a "not guilty" decision, appealing to a crime of passion defense. This decision effectively excused Lorena's harmful act as normal and justified given the mitigating circumstances.

When we consider the nature of evil, we must pause to consider our own biases and prejudices about what's normal. We must ask about the human potential, about our evolved capacities and our ability to behave in novel ways in novel environments. When we say that a person, group or nation is evil, we are saying something important about human nature, about our capability as a species. We are saying something important about the relationship between nature and nurture.

### *Evil eggs and corrosive coops*

How much do career criminals cost? Estimates from the United States suggest that if you can prevent a high risk child from entering this career, you save $1.5-2 million in costs of education, mental health, and criminal fees. Educational facilities such as the Penikese Island School in Massachusetts, where I have had the privilege of working, spend about $100,000 per student per year to keep high-risk teens off the streets and out of jail. Based on statistics collected by the Federal Bureau of Investigation, approximately 100,000 individuals under the age of 18 years were arrested in 2007 for violent crimes — murder, forcible rape, and aggravated assault. If we had nurtured and educated these teenagers before they committed such crimes, we would have saved close to $100,000,000,000. Violent crime prevention pays. How does a career of violent crime start? Are there early warning signs? How early? How much starts with the egg and how much with the coop in which it was raised?

Early scientific interests in this chicken and egg problem can be traced to the efforts of the Italian physician and psychologist Cesare Lombroso. In 1876, he published his magnum opus *The Criminal Man*. This was a serious, scholarly book aimed at understanding "whether there is a force in nature that causes crime." Based on measurements of both anatomical and psychological characteristics, Lombroso concluded that criminals were born not made. Their defining features were throwbacks to our evolutionary ancestors, dehumanized by biological defects. Modern man was civilized and elegant. Criminal man was barbaric, a savage with slanted forehead, jutting jaw, and excessively long arms. Criminal man was more ape-like than human-like. Because the cause of these differences was biological, Lombroso argued that a life of crime was inevitable. Change through rehabilitation was hopeless. To protect society, these natural born criminals had to be taken out of society, either locked up or executed. These ideas formed the basis of several eugenics' movements, with the aim of weeding out the undesirable, less than human elements of society, be they less intelligent, from a non-Caucasian racial group, or from a culture with different religious beliefs.

Lombroso's theory of criminality was soon rejected as scholars from a variety of different disciplines unearthed its racial stereotypes and shoddy methods, including a failure to include the many people with slanted foreheads, jutting jaws, and long arms who never committed crimes, and those with statuesque anatomy who did. This initiated a general skepticism and even fear of biological explanations, causing a swing in the opposite direction. Criminals were not born but made by corrupt societies. Humans are not born with biologically encoded scripts for behaving with malice or virtue. Rather, we are born with blank slates, waiting for society to inscribe its distinctive signature. So began a pendulous swing from nature to nurture. Though the oscillation continues to this day, there is increasing appreciation, perhaps especially in the arena of criminology, that both nature and nurture make important contributions. This change comes, in part, from a far greater understanding of genetics, combined with long term studies of how humans and other animals develop within environments that are either nurturing or damaging.

Consider the MAOA gene that I mentioned in the last section. This gene produces an enzyme that goes by the same shorthand of MAOA, or **M**ono**A**mine **O**xidase **A**. MAOA is evolutionarily ancient, shared with other animals, and has two different forms — *low* and *high* — that influence the level of serotonin as well as the brain areas involved in social evaluation and emotional regulation. Early evidence for the critical role of this gene in social behavior emerged from a study that knocked it out of operation. If you knock out the MAOA gene in mice, they quickly become hyper-hyper-aggressive. These genetically transformed mice have no capacity to regulate their social behavior. Consequently, all interactions are treated as confrontational and handled by aggressive attacks. These results are consistent with a large body of work in animals showing that heightened aggression and low levels of serotonin go hand in hand. These results are also consistent with work on humans. In, 1993, the Dutch biologist Hans Brunner analyzed the genetics of a large, extended family. Some individuals within this family were born with a defect that silenced the operation of the MAOA gene; they were like the mice who had this gene silenced. Relative to others in the family, these individuals had a pronounced history of violence, including murder, rape, and arson. Oddly, although this work provided one of the cleanest links between genes and violence in humans, it slid under the radar of scientific attention, only to be resuscitated and enriched about ten years later.

The behavioral geneticists Avshalom Caspi and Terry Moffitt studied a large population of young boys over several years. Though boys and girls have the MAOA gene, its effect on behavior is easier to study in boys because they have only one copy whereas girls have two, one for each of their two X chromosomes. For each boy, Caspi and Moffitt collected information on the presence and frequency of their antisocial behavior and whether they were raised by parents who were caring, mildly abusive, or severely abusive. For each boy, they also noted whether they had the low or high expressing form of MAOA.

Caspi and Moffitt's results provided a textbook example of nature's interaction with nurture. If the parents were caring, the genes made no difference in their child's personality or behavior. If the parents were mildly abusive, the boys with the low activity form were nine times more likely to fight, steal, bully, and defiantly break rules. For those boys with severely abusive parents and the low activity form of MAOA, 85% developed into violent, delinquent criminals. What these findings tell us is that in humans, it makes little difference which form of MAOA you have if you grow up with nurturing parents. But if you grow up with abusive parents, your genes make all the difference in the world. Those with the low expressing form are more likely than not to develop into delinquents, whereas those with the high expressing form are more likely than not to develop immunity. By a double dose of bad luck, one shot from the genes and one from the environment, some have a high probability of entering into the pool of potential evildoers.

The German neuroscientist Andreas Meyer-Lindenburg took the genetic work one step further, linking the particular form of MAOA up to differences in the brain. Those with relatively poor social regulation and the low expressing form of MAOA had significantly smaller brains, specifically in regions associated with the control of emotion and social behavior — the amygdala, anterior cingulate, and prefrontal cortex. These individuals also had less connectivity between these regions, harking back to the importance of promiscuity both between humans and other animals, but also within our own species. Less connectivity translates to less control by the frontal areas of the brain over emotion-relevant areas such as the amygdala. When individuals with the low expressing form viewed angry or fearful facial expressions, the emotionally-relevant brain areas went into hyper-drive, whereas those areas involved in regulating emotions hibernated. Thus, in contrast with individuals who have the high expressing form of MAOA, those with the low expressing form are overwhelmed by emotionally charged experiences, lacking the mental brakes to stay cool. By luck of the draw, the low expressing form of MAOA builds a child that is more likely to get angry and violent in the face of frustration and other emotional challenges, whereas the high expressing form builds a child that is walled off, immune to the same challenges.

MAOA is crucial not only in long term human development, but also in everyday, ephemeral social interactions. In a laboratory study, an experimenter offered subjects the opportunity to earn up to $10 on a vocabulary quiz. Once they finished the quiz, they learned that an anonymous person in another room either took some of their earnings or left it alone. With this information in hand, the quiz-taker could either vindictively punish the person by giving them some hot sauce or they could cash out of the game and recover the money lost. In other words, they could either vindictively burn their opponent or recover their losses at no cost. In reality, there was no partner in the other room. When subjects with the low expressing form of MAOA lost most of their earnings, they were far more likely to deliver the hot sauce than those with the high expressing form; they were also most likely to deliver the highest amount of the sauce. Like long-term parental abuse, even short-term provocation invoked in a laboratory environment can cause those with the low expressing form of MAOA to act out and attack.

As with all genes that have different forms, the number of individuals with the low expressing form of MAOA varies by population, including different ethnic and culturally identified groups. Caucasian and Hispanic males show some of the lowest frequencies at 34 and 29 % respectively, whereas Maori, Pacific Islander, and Chinese males show the highest at 56, 61, and 77% respectively. In a study of over 1000 men, individuals with the low expressing form of MAOA were more likely to be in violent gangs, and once in gangs, were more likely to use guns and knives than individuals with the high expressing form. Variation in the frequency of these two forms is interesting as it provides the signature handiwork of natural selection. When the frequency of one form goes up, the most likely explanation is that this form benefits the individual carriers. When the frequency goes down, there is a hidden cost. In light of this teeter-tottering of frequencies, the Maori are of interest. As celebrated by many New Zealanders today, the Maori were a highly adventurous and warring people. Individuals who took risks and fiercely defended their resources were heroes. Heroes may have been carriers of the low expressing form of MAOA. Heroes often leave more offspring, who were also carriers of the low expressing form. In the Maori environment, selection may well have favored this form of the gene. The important point is that different environments will favor different frequencies of the two forms of MAOA. This helps explain both the cause of individual differences and the challenges we face in confronting cultures of violence that are fueled by nature and nurture.

Many other labs have followed up on Caspi and Moffitt's long term, developmental study. Most find the same relationship between the MAOA gene and antisocial behavior. Others add to this account by showing how different genes and early appearing physiological differences contribute to a highly aggressive and antisocial starting state. In one study, the German psychologist Alexander Strobel put subjects in a brain scanner and invited them to play a bargaining game where they could punish someone who acted unfairly to them — personal revenge — or punish someone who acted unfairly to someone else — impersonal punishment. For each subject, Strobel also collected information on a gene called *COMT Met.* This gene has three different forms, linked to differences in activity level in the frontal lobe of the brain, which are linked to differences in the levels of dopamine, which are linked to differences in the experience of reward. Given the different forms of COMT Met, at least part of what we experience as the feeling of reward or gratification was determined by our parents, and our parent's parents, and their parent's parents, all the way back to our ape-like cousins who evolved this gene.

When Strobel looked at the brain scans of his subjects, he found that the same circuitry was engaged for personal revenge and impersonal punishment, with significant activity in the striatum — a reward area — as well as in the insula — an area involved in the feeling of disgust. When we detect an injustice, we feel disgusted, a feeling that may motivate our desire for retribution. The striatum finishes off the process, rewarding us for our punitive response, and wiping out the negative feeling of disgust. Importantly, individuals with the high expressing form of COMT Met, and thus, higher levels of dopamine, showed stronger activation in the striatum, and were more likely to punish those who act unfairly. Strobel suggests that those with the high expressing form punished more because they anticipated a higher level of reward. If this explanation is right, it has profound consequences for how we think about individual participation in the policing of norms and the honey hits associated with aggression. Some people will have a natural bias to shy away from punishment, not because they fail to see the importance of ratting out cheaters, but because they don't anticipate feeling good about it. Others will be prone to punish even the most minor infractions because they feel empowered and good about it. Those who are empowered to punish because it feels good have forged a stronger association between aggression and reward. Unbeknownst to these individuals, they started life with a bias, one that colored their willingness to harm others. This bias is joined by many others that I discuss in the next few sections.

The take home message is that if you are born male, endowed with certain genetic variants such as the low activity form of MAOA, and experience physical and psychological abuse by your parents, the odds of delinquency are frighteningly high. That's the bad news. The good news is that if you are born male, have the high activity variant of the MAOA gene, and experience physical and psychological abuse by your parents, you are vaccinated by nature against the harms of your unfortunate nurture. The problem, of course, is that you have no say over which endowment you get, nor over the kinds of parents you receive.

One of the reasons I have worked through this case study of genetic constraints and environmental sculpting is to provide an antidote to the often polarized views that have dominated much of the historical and psychological literature on evil. Many of the earliest, and most famous psychological experiments were related in one way or another to Hannah Arendt's thoughts about Adolf Eichmann and the fact that good people are capable of horrific things: the banality of evil. Hiding behind every average Joe is a person equipped with an engine of malice. Banality is the veil of evil. Thus, the American psychologist Stanley Milgram showed that normal people were capable of shocking innocent others when an authority figure told them to do so; of course, there were no shocks, but the subjects believed they were real. Similarly, the American psychologists Solomon Asch and Philip Zimbardo showed that normal people followed group attitudes and instructions, bleating like mindless sheep, no reflection, no critical thinking, no concern about the consequences of their actions. In Zimbardo's study — the famous Stanford prison experiments — run of the mill undergraduates playing the role of prison guards turned into little dictators, mentally and physically abusing their run of the mill undergraduates playing the role of prisoners. Together, these studies seemed to support a blank slate view of the mind, a tablet waiting for inscription by the local culture, with no constraints on the written matter.

A closer look at many of these studies reveals far more variation in how individuals responded, suggesting that differences in their genetic make-up and personal experience either facilitated their willingness to follow authority and ideology or prevented it. Many subjects in both the Milgram and Zimbardo studies refused to follow the orders or rules of the game. Those who refused tended to identify more with the victim and less with the authority figure or ideology. This suggests important differences in the capacity to experience empathy and compassion for another. Studies by the cognitive neuroscientist Esse Viding show that by the pre-school years, some children have a diminished capacity for empathy, expressing a deeply callous and unemotional character. These children exhibit severe conduct problems, especially violence. These children lack remorse and an awareness of others' distress. They are cold, heartless kids. If they have a twin, they are more likely to share this callous-unemotional personality than two unrelated children, revealing the trademark of a powerful genetic engine. More boys than girls fall on the high end of this callous-unemotional scale — where high translates to colder and more callous. Those who score highest on the scale engage in more direct physical bullying than those who score lower. High scorers lack the skills to modulate their behavior following direct or anticipated punishment. These individuals also show reduced activity in the amygdala, a part of the brain that is critically involved in regulating emotion, especially the assignment of a positive or negative value on our actions and experiences. These individual differences persist into adulthood. These are the kind of individual differences that can explain why some followed Milgram and Zimbardo's instructions to perfection, while others resisted, exerting self-control.

### *The sweetness of control*

When humans and other animals travel the road to excess, whether for food consumption, violence, power, or sex, it is either because they gave in to an in-the-moment impulsive itch or because a history of losing self-control turned into an addictive habit. What causes us to lose our sense of moderation, allow our mental brakes to slip, and give in to temptation? What causes our preferences to inconsistently and irrationally shift over time, allowing seductive offerings to win? If you are the eminent social psychologist Roy Baumeister who has contributed fundamental insights into the nature of evil, the answer is simple: sugar. Love it. Want it. Need it.

When we work hard, focusing on a difficult problem or trying to figure out the best decision, exhaustion strikes. Part of our exhaustion comes from the fact that we have depleted a critical resource: sugar, or more precisely, glucose. When the availability of this resource diminishes, we also lose self-control. This is why the loss of self-control has a cycle that follows the time of day, with the greatest losses occurring late rather than early: diet breakers are more likely to pig out in the evening than early in the morning; shoppers are more likely to buy impulsively as the day moves on; impulsive crimes and relapses of addiction are evening affairs; judges are more likely to dole out punishment at the end of a day in court than when they start a new day. Dozens of experiments show that if you have to exert self-control in one context it taxes your capacity to exert self-control in another. For example, if you ask subjects to avoid laughing while watching a comedy routine, avoid thinking about a white bear, or avoid eating chocolates now to have radishes later, these same subjects will squeeze a hand grip for a shorter period of time than subjects who never contended with the various self-control tasks. When you deplete your personal resources, you lose your grip, opening yourself up to binge eating, unnecessary violence, sexual promiscuity, and drug relapses.

How do we know that glucose is responsible? If you give people a milkshake with real sugar before they have to take a hard test involving self-control, they do better than if you give them a milkshake with an artificial sweetener. If you first make people take a test that taxes their attention, and causes their glucose to drop, they do worse on a subsequent test, including the hand grip squeezing test. In an extraordinary series of experiments and observations, the American psychologist Nathan DeWall found that subjects who drank lemonade with glucose were less likely to respond aggressively to an insult than subjects who drank lemonade with artificial sweetener; individuals with diabetes — who have difficulty regulating blood glucose, and thus have less of it — reported higher levels of aggression on a questionnaire than non-diabetics; within the United States, those states with higher numbers of diabetics showed higher crime rates; and countries with a higher frequency of a genetic disorder that lowers glucose levels showed higher killing rates both in and out of war.

To accept DeWall's striking results, it is necessary to accept one connection between self-control and aggression and a second between glucose and self-control:

SELF-CONTROL DOWN → AGGRESSION UP
GLUCOSE DOWN → SELF-CONTROL DOWN

That aggression often follows from a loss of control is backed up by considerable evidence, including clinical studies that link lack of inhibition in psychopaths to extreme violence. Also of interest is the fact that impulsive aggression is more likely to arise when individuals are drunk than sober. Alcohol, as we all know, lowers our inhibitions, but also lowers glucose in both the brain and body. Though scientists such as Baumeister and DeWall have not yet worked out in detail how glucose is used or replenished in the context of self-control, there are far too many studies using different methods and subjects to ignore this relationship. Minimally, these studies indicate that we should think about self-control like a resource, something that can be used up and replenished, something that can be depleted, tipping the scale toward violence.

One of the interesting implications of DeWall's work is that individual differences in glucose availability are coupled with individual differences in self-control. Diabetes shows a high level of heritability, meaning that some individuals are more likely to develop this problem than others simply based on what genes they receive from their parents. The prevalence of diabetes is on the rise in many countries, with some estimates suggesting that by 2025, there will be 325,000,000 diabetics world wide, more than double current estimates. The genetic disorder that lowers glucose levels arises because of a deficiency in a key enzyme, glucose-6-phosphate-dehydrogenase. This is one of the most common enzyme deficiencies in the world, affecting over 400,000,000 people, and in many cases, triggered by the consumption of fava beans. As with variation in the frequency of MAOA, so too can variation in this glucose-related gene be subject to selection pressures, especially given its link to violence. Once again, we see nature and nurture contributing to individual variation and cultural differences in our capacity to harm others.

Together, these observations of glucose-related disorders speak to a disconcerting reality: we are born with inherent differences in the availability of key resources guiding self-restraint. Some of us start off life better equipped to control our frustrations, wait for future gains, and moderate our temper. These early differences can have long lasting and disastrous effects later in life, a point supported by a study that began forty years ago with four year-old children presented with a marshmallow.

The American social psychologist Walter Mischel recruited four year old children to his laboratory and sat them down at a table with two objects: a marshmallow and a bell. He then told each child that he was going to leave the room. If they wanted to eat the marshmallow, they only had to ring the bell. But, as Mischel informed them, if they waited for his return, he would bring them more marshmallows. Mischel took out his stopwatch and recorded how long each child waited before ringing the bell.

Some children rang the bell almost immediately, leaving Mischel no time to leave the room. Others waited. This isn't surprising. Some children are impulsive, others are impatient, and this shows up early in life. What is surprising is that these early appearing personality types held steadfast, impacting later life decisions and actions. The more impatient types were more likely to be involved in juvenile delinquency, have poor grades, abuse drugs, get divorced, and lose their jobs. For women who developed eating disorders, those who were more patient were more likely to be anorexic, whereas those who were more impulsive were more likely to be bulimic. When the American developmental psychologist B.J. Casey put these now 40-somethings inside a brain scanner, the patient ones showed stronger activation in the prefrontal areas of the brain when viewing happy and fearful faces, revealing stronger self-control over their feelings. In contrast, when the impatient ones viewed the same stimuli, not only was there a weaker response in the prefrontal region but a stronger response in the ventral striatum when viewing happy faces. The striatum, as noted earlier, is involved in the experience of reward. For the impatient types, seeing something positive is like eating candy, something that is hard to ignore. The patient types regulate this feeling, transforming the heat of the moment into a cool experience. The impatient types are overwhelmed by this feeling, giving into temptation. This work adds to the genetic evidence reviewed earlier, showcasing both the importance of individual differences in self-control, and the stability of these differences as distinctive personality types.

Individual differences in self-control are also relevant to levels of recidivism in youths who have committed a crime, and thus tie us back to the beginning of this chapter and the costs of a career criminal. Career criminals are individuals who repeatedly commit crimes. They lack self-control. This is important for judges, juries and society as we want to know in advance who is most likely to commit another crime if we release them back out onto the streets. The American sociologist Matt DeLisi presented a self-control survey to approximately 800 juvenile youths, ages 12-17 years, each with a criminal record. Those who scored one standard deviation from the mean on this survey, and thus were more impulsive than most, were five times more likely to become career criminals. Five times. Self-control on its own accounted for about 80% of the variation in recidivism among these delinquents; the remaining 20% was accounted for by factors that one might think would be much more important, including mental health, education, gender, and socioeconomic background. As DeLisi concludes, these results suggest that measures of self-control provide a reliable predictor of the likelihood of repeating a crime. They provide a measure of risk, a factor that both juvenile and adult courts should be using to determine their sentencing, especially the individual's future dangerousness.

Individual differences in glucose metabolism, together with relative differences in brain activity, lead to stable differences in self-control. But there's more, both luck of the draw genetic effects and clinical distortions. Recall that the low expressing form of the MAOA gene results in lower levels of serotonin which, in turn, leverages less control over aggressive impulses. There is another gene — SLC6A4 — that also comes in two forms and regulates the level of serotonin. The short form of this gene gives you less serotonin, is commonly found in pathological gamblers and psychopaths — two heavily male-biased disorders that are associated with impoverished impulse control. Psychopaths also have relatively smaller frontal lobes , especially within a region that has a high density of serotonin neurons. Psychopathy is joined by a family of impulse control disorders that also implicate dysfunction of the serotonin system, including kleptomania (stealing), pyromania (burning), trichotillomania (hair pulling), and oniomania (shopping). Like glucose, serotonin plays a lead role in our capacity for self-control. When serotonin is sidelined from the performance, any number of impulsivity problems may emerge.

What I have said thus far is only a partial accounting of the biological ingredients that figure into our capacity for self-control. What this partial recipe tell us is that regardless of the situation, some individuals are inoculated against the pull of authority and group ideology and others are susceptible. If you missed the inoculation clinic in utero, you are more susceptible to temptations and excesses, including excessive violence. This is important for our interpretation of the real world and of the famous psychological experiments by Milgram, Zimbardo, and others in which seemingly good people carried out unambiguously horrid things. Some individuals carry a genetic skeleton that resists the push and pull of charismatic leaders and powerful isms. These people will not be pushed into doing bad things. Others, faced with the exact same situation, will find their skeleton buckling, tempted to take risks and lash out when the going gets tough.

## *Invisible risks*

Several years ago, Ira Glass, the brilliant radio show host of *This American Life,* delved into the topic of superheroes. One episode focused on a question that has become part of my repertoire for dinner parties, especially those in need of a conversational catalyst: if you could become a superhero with one power, which would you take — the ability to fly or to be invisible? Most people have a rapid-fire, confident response to this question, while others reflect a bit, often engaging themselves in a public debate over their conflicted views. What is interesting about people's answer to this question, independently of whether they pick flying or invisibility, is that they rarely talk about using their power to do good in the world! The flyers talk about how cool it would be to vacation anywhere in the world, zip to work or school, or have fun soaring like an eagle. The invisibility types talk about sneaking into stores and taking clothes or music they like, eavesdropping on conversations, and playing tricks on family members and friends. What is even more interesting about these particular answers is how they divide into pure hedonism — flying — and pure vice — invisibility. With invisibility you can take risks at no cost, except for the cost that soon becomes apparent to many of these newly donned superheroes: even if they don't get caught, they still did something bad, morally bad. This ratchets up their guilt. With this realization, and a dip into the dark side, comes an about face, with some picking flying instead of invisibility. Rarely do people stick with invisibility, but see how they might deploy their power for virtuous purposes. Rarely do these superheroes realize that they can be real heroes, using their invisibility to gain covert information about terrorist organizations, elicit drug traders, pedophilic priests, or abusive parents — minus the risks.

In real life, there are risks associated with every decision, some clear from the start and others only clear in hindsight. As with self-control, a growing body of evidence shows that there are individual differences in risk-taking: some are risk-averse, some risk-prone, and some seemingly risk-blind, unaware that they are taking risks at all. Some of these differences are evident early in life. Some of these differences are strongly associated with crime later in life. Some of these differences provide insights into the invisible risks that individuals and societies confront, risks that can cause great harms.

Research on clinical populations with antisocial disorders, most notably those with a clinical diagnosis of psychopathy, reveals a major cause of their high risk, costly, and violent behavior: a failure to experience fear, anxiety, or stress in response to highly evocative images and sounds. In contrast with healthy populations, psychopaths are emotionally blasé about the things in the world that can cause harm or result in punishment. The problem lies in the fact that psychopaths, both adults and those identified as candidates early in childhood, fail to learn about the dangers in life. Their failure to learn is caused by a reduction in size and activity of two critical and connected brain areas: a region of the frontal cortex and the amygdala. When this system works efficiently, it allows individuals to learn about the sounds, smells, and sights that are associated with bad things in the world. When this system works well, individuals learn to avoid antisocial, immoral, and illegal acts by developing anxiety and fear over the possibility of punishment and personal injury. When this system works poorly, as is the case in psychopaths, individuals act as if there are no dangers or risks of punishment — a disposition that enables inappropriate actions. But psychopathy covers a broad spectrum, with problems that all of us confront at some point in our lives, some of us even repeatedly. This is important as it forces us to look at non-clinical populations for the causes of individual differences in risk-taking, especially our reactivity to dangerous events.

Studies carried out over several decades, in a wide variety of cultures, reveal that children begin life with distinctive temperaments. Some are mellow, blasé about events that are startling to many.

Others are high strung and reactive, responding with heightened fear to the same startling events. Others fall somewhere in between these two poles. What is surprising is the fact those with the flattest response to evocative images and sounds are the most likely to become violent delinquents in young adulthood.

In a remarkable study, Adrian Raine and his colleagues presented 1,795 three year olds with two different sounds while recording the sweatiness of their palms; the sweatier the palms, the greater the stress and fear. One sound was always associated with a second and highly aversive noise, while the second sound was always played alone. When you pair a neutral sound, such as a pure tone, with a nasty sound, simply hearing the pure tone will make your skin crawl; the pure tone predicts what is coming, and what is coming is not pleasant. When Raine revisited these same individuals twenty years later, those with serious criminal records involving drug abuse, dangerous driving violations, or violence, had the driest palms at the age of three years. In another study, focusing specifically on violence, Raine measured the sweatiness of a different group of three year olds and then looked at their aggressiveness five years later. Once again, those with the driest palms at three years were the most aggressive at eight years. In the absence of a system that enables individuals to learn about danger, the brain and body act as if they were shrouded in an invisibility cloak, blind to the risks of crossing either moral or legal lines.

Raine's findings fit well with the marshmallow study. In the same way that those who were most impatient in the pre-school years were also most likely to exhibit signs of delinquency in early adulthood, so too were those who were most blasé about fearful stimuli as children most likely to exhibit delinquency in adulthood. Both studies reveal the stability of personality traits. Both studies suggest that at the level of groups of individuals, as opposed to specific individuals, the blasé-impatient types represent a greater threat to our welfare. The point about groups is important. These studies do not allow us to look at an individual's record and conclude that because he could only wait for 3 seconds before eating the lone marshmallow, and almost fell asleep when presented with loud banging noises, that he is without doubt headed for a life of crime. We also can't conclude that because patience and reactivity to fearful stimuli can be measured as early as three years old, that these personality traits are entirely genetic and fixed. In fact, other studies carried out by Raine show that if you ramp up the nutrition, exercise, and mental stimulation of children between the ages of 3-5 years, you can reduce adult criminal offenses by 35%. What we can conclude from these findings is that there are significant individual differences that affect who is willing to take risks and who isn't. We can conclude that there is a strong biological component that constrains the individual's options. We can conclude that those who start early in life without an understanding of the dangers in the world, act as if they live in a risk-free world. Molecular biologists provide an increasingly precise understanding of how these individual differences start, pointing to genes that bias some individuals to take extreme risks, including the risk of violating social norms and laws by violently attacking another human being.

There are many situations where taking a risk pays off, whether we think of stealth military operations, chancy shots in the final seconds of a basketball game, or significant investments in an up and coming stock option. Playing it safe pays off. But those who stick their necks out and take a chance, may bring home significant gains. It is because of these competing strategies and potential payoffs that evolutionary biologists have imagined that selection could maintain both personality types within a population — a point noted earlier for the MAOA and glucose-related genes. If selection has worked in this way, then there must be genetic variation that allows for both strategies. To date, the strongest evidence comes from a family of genes associated with the regulation of dopamine, with the memorable acronyms of DAT1, DRD2 and DRD4; each of these genes is associated with different forms, each form associated with different levels of dopamine. Recall from chapter 2 that dopamine plays an essential role in our experience of reward, including how motivated we are to get it and what we anticipate based on our understanding of the situation — have we been rewarded in the past, how often, and how much? The idea here is that those who carry genes that output a higher level of dopamine may weight rewards more heavily and thus, show risk-blindness; for these individuals, the eye is on the prize, not the path or obstacles to this prize.

Across a number of studies, results show that variation in the expression of these genes is associated with high-risk, low self-control behaviors, including pathological gambling, substance abuse, sensation seeking, and financial investments. For example, in two separate studies, individuals with different variants of the DRD4 gene played a financial investment game involving real money. In one, designed by Joan Chiao, subjects decided to invest in either a risky asset with variable returns or a riskless asset with consistent returns. In the second study, the Swedish economist Ana Dreber and the American anthropologist Corin Apicella allowed subjects to either walk away with an initial starting pot of money, or to invest some of it in a risky asset. Those with the DRD4 variant that expresses higher levels of dopamine were more likely to pursue the risky investment. What this work reveals is that part of the variation we observe among people who make risky investments, drink too much alcohol, and gamble with their income, is due to variation in the dopamine family of genes. These are hidden risks that come to life thanks to molecular biologist's microscope. What also comes to life is the fact that these same genes are relevant to violence, causing some to strike out even though there are significant risks and terrible consequences.

In several studies, using an American health data base of several thousand adolescents, results consistently show a relationship between particular variants of the dopamine genes and violence. For example, the sociologist Guang Guo examined the relationship between violent delinquency — involving use of guns and knives — and variation in DRD2 and DAT1 among 2,5000 individuals ages 12-23 years. DRD2 was of particular interest because medical records and clinical trials reveal that administering haloperidol — a DRD2 dopamine antagonist — helps control aggression in psychotic patients. Guo found that levels of violence were about twice as high for one variant of the DRD2 gene than others, and about 20% higher for a particular variant of the DAT1 gene. These genetic variants cause differences in dopamine, which cause differences in expected and experienced reward, which cause differences in perceived risk, which cause differences in the odds of getting in a fight and harming others. These are not genes for aggression, violence or evil. There are no such genes. Rather, they are genes that change our perception of risk. Because risk is related to all sorts of decisions, these genes can affect the odds that we directly harm others. They are part of the story of individual differences, and part of the story of why some are more likely to engage in evildoing.

Everything I have discussed thus far focuses on actions, on how the psychology of desire and denial combine to fuel behaviors that lead, directly or indirectly, to excessive harms. I have also explained how different biological ingredients predispose us toward different degrees of self-control, and thus, differences in our ability to omit particular actions. This sense of omission is a virtue, a sign of resisting temptation. But can omissions be a sign of vice, of resisting an action that is called for? Can omissions ever reach such a scale that we would consider individuals or societies as evil omitters?

## *The sin of sloth.*

What's worse: 1) giving a lethal overdose to someone suffering from an incurable disease or allowing this person to die by removing life support? 2) pushing someone in front of a runaway truck to stop the truck and save the lives of five others or allowing someone to walk in front of the truck instead of warning them? 3) pouring a toxic chemical into your competitor's drink in order to make him sick or allowing your competitor to drink the toxic chemical that was placed on the table by someone else? Even though all of these situations seem quite bad, most people have a gut feeling that the actions are worse than the omissions. They also feel that when we omit life support, fail to warn someone of a runaway truck, or remain silent about a toxic drink, that we are less responsible for the consequences that unfold. Dozens of studies, using hundreds of different examples, and thousands of subjects, support what our gut expresses: we are captive to an *omission effect*. Even when we understand that the consequences are precisely the same — the suffering patient dies, the truck kills the person, the toxic chemical makes the competitor sick — and so too are the person's goals and intentions — eliminate suffering, save five people, take out the competitor — we are seduced to believe that action is worse than omission or that doing harm to another is worse than allowing harm to occur.

The omission effect lays bare a tension between unconscious, spontaneous intuition and conscious, reflective thought. On the one hand, there are potentially good reasons why we evolved this intuition. It is a heuristic or rule of thumb that may be right much of the time. When I do something, as long as it is not by accident, my intentions and goals are more clear cut than when I fail to do something or allow it to happen. If I punch you and your arm bruises, the causality is clear: I caused your arm to bruise. I am responsible for this harm. I should be punished. If I stand by as someone is about to punch you, but don't deflect the punch when I easily could have, it feels odd to say that I caused your arm to bruise. It also seems strange to say that I am responsible and should be punished. By not deflecting the punch, I allowed the harm to occur. I could have prevented it from happening, but I am not obliged to. As social creatures, we have been designed to pick up on cues that reliably classify people into friends and enemies. Friends intentionally help us while enemies intentionally harm us. Actions showcase our intentions better than omissions.

The omission effect also makes sense in terms of personal responsibility. Not only do our guts tell us that actors are more responsible for outcomes than omitters, but our guts also tell us that it is hard to hold others responsible for their omissions. As I sit and write these words, I am committing heinous acts of omission: I am not currently giving money to any charities, am not scheduled to teach in the dozens of refugee camps around the world, and am not volunteering for any of the peace keeping armies sponsored by the UN. I am also guilty of many other minor crimes of omission, including the failure to consistently give my change to homeless individuals, and the failure to spend time in homes for the elderly and mentally handicapped. As I sit, I rack up countless harms of omission. It is hopefully the absurdity of this comment that shows why there is a fracture in the arm that connects omissions to responsibility. In a large scale society, it is impossible for us to hold people responsible for their omissions. There are far too many reasons, often good ones, why people *don't* act. The universe of reasons for acting is smaller.

If the omission effect arises because it is virtually impossible to hold omitters responsible in a large scale society, than what about small scale societies including the hunter-gathers of our past, and the tiny hamlets and villages that dot many countries, both developed and developing? When the number of people that you know and interact with is small, does the omission effect vanish? In a fish bowl community, you should be able to hold all of the other fish responsible for their actions and omissions because you know what they are up to. To explore this idea, the psychologist Linda Abarbanell and I ran a study with a rural, small scale Mayan population, living in the Chiapas region of Mexico. Every individual listened to a reading of a moral dilemma. Each dilemma described an action or an omission that resulted in harming one person, but saving the lives of many. Subjects judged the moral permissibility of the action or omission.

Unlike thousands of adults on the internet who judged similar dilemmas, as well as other Mayans living in a city, individuals in this small scale Mayan population perceived no moral difference between actions and omissions. The omission effect evaporated, with the moral weight of an action perceived to be on a par with an omission.

The Mayan study is but one example. It suggests some flexibility in our perception of actions and omissions, and shows how cultural differences can create individual differences. When our social world is relatively small and circumscribed, we can keep tabs on everyone. By keeping tabs, we can hold others responsible for their actions and their omissions. As the American psychologists Jon Haidt and Jonathan Baron have shown, this psychology can be recreated in the laboratory by creating scenarios in which the individuals are either unfamiliar or familiar. When there is a relationship between the individuals — family, friends, team members — and thus, some degree of familiarity, the omission effect weakens.

The omission effect is not an obligatory state of the human mind. It is a common tendency, a way that our brains lean, especially in unfamiliar contexts. In patients with obsessive compulsive disorder, the omission effect is as strong as it is in healthy subjects, *except* for familiar cases of harm that are directly relevant to them, such as the excessive washing behavior that is the trademark of this clinical disorder. The fact that certain situations can cause us to lean in different directions has important policy implications: even when corporations, institutions, or other organizations grow large, we should always segregate these masses into smaller divisions, and make the issues personally relevant. Every member of one division should hold all others within its division responsible or accountable. Further, efforts should be made to foster familiarity across divisions, enabling not only a level of responsibility but of respect and trust. By recreating the psychology of small scale societies, and making potential harms relevant, we may help bypass the omission effect, allowing us to hold people responsible for their omissions. This, in turn, may reduce the number of individuals who live as passive bystanders. Familiarity and relevance may well be the necessary catalysts for converting bystanders into active whistle blowers, defenders, and rescuers.

When bystanders remain passive, watching the world go by, it is often because they believe that their actions won't make a difference or think that the costs of heroism are too high. This is, again, an issue of responsibility. It raises the question of when we ought to act. The distinguished Australian philosopher Peter Singer has spent a lifetime pushing this issue in the context of charitable donations, culminating most recently in his book *The Life You Can Save*. The key idea, taken from a utilitarian perspective where outcomes as opposed to rules or principles motivate our moral actions, is that we ought to give a fraction of our incomes to those lacking basic access to food, shelter and health care. Standing by as bystanders when there are 1.4 billion people in a state of abject poverty is morally wrong. The logic seems perfectly reasonable, especially given the fact that humanitarian organizations have helped reduce the number of people living in poverty by .5 billion within the last 20 years. But then we learn of another Peter Singer idea: if the three richest men alive today — Carlos Slim Helu, Bill Gates, and Warren Buffett

— worth a total of 153.5 billion dollars, were to give up one third of their net worth, they could solve world hunger. On a personal level, they would barely notice this donation. With this knowledge, why should I bother to give a penny? This is one example of apathy regarding our motivation to help others. What propels individuals to shift from passive bystanders who can allow harm to occur to active contributors?

Classic studies by the American psychologists John Darley and Bibb Latane reveal the ingredients for bystander action. Whether it is helping someone having a seizure, being molested, or in danger of suffocation from smoke, we are more likely to help when alone than when in a group. We are also more likely to help when we recognize the situation as a crisis and think that there are plausible solutions. These are all characteristics of the situation. There are also characteristics of the individual bystander, including their level of compassion and empathy toward others, their capacity to identify with the victim, and their self-control. For example, people who intervene in cases of child abuse, as opposed to the passive bystanders, are more likely to have been abused as children, more likely to perceive a solution, more likely to feel responsibility to intervene, and more likely to experience the weight of guilt for not intervening. We are back to individuals differences. We are back to the egg and coop, and their joint contribution to helping or harming others. We are back to the established genetic differences in compassion, risk-taking, and self-control that combine with a history of experience to create some who sit and watch and others who actively participate.

We are more likely to pardon bystanders because we tend to see omissions as less bad than actions, and omitters as less responsible for the consequences than actors. This is a dangerous effect. Bystanders are part of the equation of evil. As noted by the American genocide scholar and psychologist, Ervin Staub, bystanders start out as passive players on the side lines, but are rapidly transformed into perpetrators. The transformation starts with the challenge of maintaining passivity while watching other humans suffer; to maintain this observer status requires suppressing empathy for the sufferers, while recognizing that they are in the minority and you, the bystander, are with the majority. To avoid feeling guilty for not feeling empathy, bystanders distance themselves even further from the victims. Distancing is an adaptive response as any association with the victims could put a bystander in harm's way. But like so many other psychological states discussed in this book, distancing leads to dehumanization. Dehumanization leads to moral disengagement and greater justification for the perpetrators. Justification lends cheering support for violence. This is the final transforming step, from passive bystander to active participant.

Recall that on my account of evil, evildoers either have a desire to cause harm directly or desire something good, recognizing that it will cause harm indirectly. This is true of actions and omissions. For example, keeping a secret, even if pressured into spilling the beans, is a good thing because it upholds a promise, and thus, the relationship. But if keeping the secret results in innocent lives lost or ruined, then this is a bad thing. Not telling — an omission — indirectly can cause harm. This is the situation that has confronted the Catholic Church over the past twenty years.

During the tenures of Popes John Paul II and Benedict XVI, some 4,000 priests sexually abused some 10,000 innocent children. This is unquestionably an underestimate. This is excessive harm. Popes John Paul II and Benedict XVI , together with their cardinals and bishops, assumed the role of bystanders. They were aware of the rampant cases of child rape among the clergy. They could have acted. Their omissions are archetypal examples of the sin of sloth. By omission, they are responsible for excessive harm and should be held legally accountable. This process has begun as evidenced by the decision in October of 2011 to indict Bishop Robert Finn for failing to report a priest who took pornographic photographs of young girls. Though Finn was only charged with a misdemeanor, this case opens opens a legal floodgate. It is an opening that should allow prosecutors, around the globe, to indict bishops, cardinals, and the Pope for evil omissions. It should empower the parents and children who have suffered to rise up and demand justice for allowing excessive harm to occur. It should cause everyone to express outrage over the fact that allowing priests to rape innocent children perpetuates a cycle of pedophiles as those who have been abused are likely to abuse others. The leaders of the church have not only commited a crime of omission, but have helped perpetuate a culture of harm.

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# Epilogue: Evilightenment

> Educate your children to self-control, to the habit of holding passion and prejudice and evil tendencies subject to an upright and reasoning will, and you have done much to abolish misery from their future and crimes from society.
> — Benjamin Franklin

Charles Darwin observed that of all the differences between humans and other animals, one capacity reigns supreme: we alone have the ability to contemplate what others *ought* to do. We alone are endowed with a moral imperative to reflect, consider, and imagine alternatives. We alone are impelled to be dissatisfied with the status quo, urged to contemplate what could be and ultimately what must be. This capacity creates a fundamental principle of human existence and enlightenment: we alone invest in the survival of the *least* fit. We give money to those in abject poverty, risk our lives to help others in areas of conflict, adopt abandoned children, nurture individuals with extreme disabilities, and care for the elderly. This principle fuels our humanitarian efforts. Sadly, it is a necessary response to another unique difference between humans and other animals: we alone have the ability to inflict great harms on our own species and many others. We alone are responsible for creating work for those in the humanitarian sector. We alone are evil.

We also have an opportunity to begin a new volume of humane history. We have the chance to harness our understanding of the past in order to present our children with the gift of knowledge and the prospects of a healthier future. We should — no, we must — teach our children what we have learned about the causes of corporate corruption, the desire for ethnic cleansing, and the combined forces of nature and nurture to create excessive suffering and lifeless flesh. These are topics that should be presented early on in education rather than waiting for heady discussions at the university. We owe the next generation the best education from our generation. The best education will come from confronting history, exposing human nature, and supporting cultural variation while fighting to demolish totalitarian regimes that limit or eliminate basic human rights. I write this sentence following on the eve of Egypt's inspiring revolution, a revolution led by educated people who refused to allow the dictator Hosni Mubarak to ruin their country and their children's future. The people of Egypt, like the people of many countries who rallied in the Arab spring of 2011, refused to be eternal victims. This is a lesson that must spread to every corner of the globe. It is a lesson of hope. It is a lesson to all evildoers to beware.

I have taken you on a journey into evil's core, penetrating with scientific evidence and explanation. Though we have traveled to distant lands, traversed vast spans of time, and encountered wildly different cultures, the key idea is that this richness was generated from a few essential ingredients. This is a minimalist approach to a difficult and highly variegated problem. I end our journey by taking stock of the essential ideas and reflect on some of the broader implications.

## *Retracing our steps*

In the beginning, before there were bald, bipedal, big-brained, babbling humans, there were hairy, quadrupedal, bitsy-brained, barking bonobos. These animals, clearly clever, have survived for over 6-7 million years, despite attempts by our species to demolish their habitat. But — and this is a significant *but* — in the millions of years that encompass their evolutionary history, bonobos have remained virtually unchanged. They are still hairy, quadrupedal, bitsy-brained and barking. They still live in the jungles of Africa. Not a single bonobo, or its close relative the chimpanzee, has ever taken a step out of Africa the way that members of our species did some 60-100,000 years ago. In fact, not a single bonobo or chimpanzee has ever ventured across national borders within the continent to explore new opportunities or develop new cultures. Not a single bonobo or chimpanzee has even moved out of the forests and on to the beaches or deserts or alpine environments of Africa. Not one. When we took our steps out of Africa, we did so with confidence, ready to tackle new environments, create novel tools, engage in rituals to commemorate the dead, build fires to cook food and keep warm, join hands with unrelated strangers in the service of cooperation, and create oral histories that could be passed on to generations of children. What enabled this celebratory migration was a cerebral migration. Not only did our brain get much bigger than the one housed within bonobo and chimpanzee skulls, it evolved into an engine that generates an unlimited combination of thoughts and feelings. We uniquely evolved a promiscuous brain.

What does promiscuity buy? In a word: "creativity." It enables regions of the brain that evolved for highly specialized functions to intermingle with other regions of the brain to create new ways of thinking and new ways of experiencing what we see, hear, touch, taste and feel. A promiscuous brain paved the way for awe-inspiring bursts of creativity in art, music, literature and science. A promiscuous brain enabled Bach and Bono, Picasso and Pollock, Shakespeare and Shaw, and Descartes and Darwin. A promiscuous brain enables us to imagine things we have never directly experienced, to create once unimaginable worlds, including blissful heavens and living hells. My focus in this book has been the infernos we create for other human beings, here on this earth. What I have argued is that we got here by accident.

When our brains allowed us to combine familiar thoughts and feelings to create virgin ideas, it enabled us to feel good about doing bad. It enabled us to incur the costs of punishing others while reaping the rewards of marching to the moral high ground. It enabled us to solve the problem of large scale cooperation with unrelated strangers. This was a fundamental breakthrough in mental life, a spectacular benefit, and the target of strong selection. But benefits often carry hidden costs. When punishment triggered a honey hit to the brain, violence and reward formed an eternal bond. We now carry the burden of a brain that engages in denial in order to satisfy our desires. When these concepts couple, the odds of conceiving excessive harms is virtually guaranteed. Sometimes this malicious offspring is intended and at other times it is foreseen. Either way, the world has been populated with evildoers in waiting. Either way, our world hosts a species that has the creative capacity to financially ruin, mutilate, rape, burn, torture, and extinguish millions of lives. Often, this potential is realized.

My aim in this book has been to explain evil to better understand its origins, not to justify or promote it. My aim has been to explain evil to clarify its root cause, to alert others to its early warning signs, and to pave the way to a more humane existence. I have suggested that evil, expressed in the form of excessive harms, is caused by two ingredients: desire and denial. These are psychological states. On their own, they are often inert. When combined, they are often explosive.

*Desires*. We all have them, from birth till death, from a desire for perpetual maternal warmth to a desire for eternal life. Some of our desires change over the course of our lives while others stay the same. We all desire good health and happiness. We differ, however, in what counts as good health and happiness. Many of us experience, at least once in our life, the desire to harm another. Our desire to harm ranges from the mundane — uttering a sarcastic comment about someone's looks or telling a racist joke — to the horrific — creating corrupt corporate schemes or policies of ethnic cleansing. Sometimes what we desire is rather benign, but linked to foreseeable atrocities. Sometimes our desires are toxic, as when we plot to extinguish a culturally distinctive group. On one reading, President George W. Bush may well have initiated the wars in Afghanistan and Iraq as retaliatory attacks on terrorists, designed to protect American interests and well-being. But he brought much of our nation on board by weaving a web of lies and feeding a cowboy mentality of revenge rather than nurturing compassion and understanding. The consequences, clearly foreseen at the time, have been excessive. As a nation, we did not pursue an eye-for-an-eye revenge. We had a different algorithm in mind, on the order of 30,000 eyes for an eye.

Approximately 3,000 innocent victims died in the 9-11 attacks. As of early 2011, some where between 900,000 to over a million soldiers and civilians have died in Afghanistan and Iraq due to the war. This is excessive. This is no longer revenge. This is senseless brutality.

On one reading, Pope Benedict XVI kept his knowledge of pedophilic priests quiet and confidential in order to forgive them and protect the church. But this seemingly benign desire led to a disaster, one that was foreseeable: continued sexual assault on thousands of innocent children and for many, a loss of trust in the church and their moral and spiritual leader.

Discoveries by molecular biologists, neuroscientists, and psychologists reveal important individual differences in our capacity to fuel desire, differences that constrain the paths we take from birth until our last breath. Some individuals are more risk-prone, some are impatient, and some gain a greater hit of dopamine in anticipation of reward, thereby doping themselves on the brain's pharmaceutical offerings. Some are born with a set of genes that diminish the capacity for self-control. These individuals start with lower levels of serotonin. These individuals, if raised by abusive parents, have a higher probability of taking someone's head off if they are challenged. Some individuals are born with low stress levels. These individuals are more likely to be sensation-seekers, voracious desirers who will stop at nothing less than the spectacular, even if this means the spectacularly violent. None of these biological catalysts operate in a vacuum. All of these biological catalysts feed off of particular environments that we create. Geological and climatic factors create savannahs, oceans, and mountains. We create slums, refugee camps, and totalitarian regimes. We are responsible for creating toxic environments and equally responsible for cleaning them up. How we think about individual responsibility in cases of brain damage, developmental disorders or innate differences in the starting state of our neurochemistry is a different problem, one that I will touch upon in the last section.

*Denial*. We all engage in it, at least some of the time. Like the psychology of desire, our engagement with denial is sometimes benign and often beneficial as a coping mechanism. We dehumanize in order to buffer ourselves from the pain of another's pain. We self-deceive in the service of boosting self-confidence and self-esteem. When doctors turn their patients into machines that require repair, they have deployed an adaptive mechanism that keeps empathy at bay when it is unnecessary. Good doctors, the ones that we all want, turn empathy back on when their patients awake from surgery, flesh and blood pulsating, thoughts and emotions humming. Bad doctors never turn empathy back on. Evil doctors, such as Carl Clauberg who injected liquid acid in the uterus of Jewish prisoners as part of a Nazi inspired sterilization program, not only lack empathy for their patients, but see them as vermin or parasites that require extermination in the name of science and the preservation of our species. Denial has transformed other human beings into nonhuman forms, from inert objects to wild animals and parasites. Denial has allowed military leaders and airplane pilots to ignore clear signs of trouble, marching thousands to their death. When this happens, moral responsibility checks out. Denial provides individuals and nations with a certified license to maim, rape, burn, mutilate and kill without feeling guilt, shame or remorse.

As with desire, the sciences provide a rich offering of evidence to explain how and why we engage in denial, either by means of dehumanizing others or self-deceiving ourselves. Both dehumanization and self-deception have a clear evolutionary logic. Dehumanization is a mechanism that enhances an individual's competitive edge by making hatred and killing easier. Hatred and killing are the essential and ancient ingredients for defending the in-group and effacing the out-group. Sometimes, soldiers would rather avoid killing the enemy. But when dehumanization of the enemy takes hold in the mind of a soldier or civilian, killing is not only easy, but addictive. The brain's inhibitory mechanisms, processed by circuitry in the frontal lobes, shut down. Other brain regions involved in working out what people believe and intend, enter into hibernation. With these circuits on leave, so too is our moral conscience. When the mind runs its dehumanization software, abstinence from killing is like withdrawal from a drug. Killing is satisfying. Killing is delicious.

Self-deception evolved in the service of deception. By functionally fooling ourselves into believing that we are stronger, wiser, and more competent, we can convince others to go along for the ride, to work for us or work against a fictional enemy. Like dehumanization, this has both adaptive and maladaptive consequences. Brain imaging studies show that different circuits turn on when we lie about long held personal stories as opposed to lies about in-the-moment situations. When we distort reality, either omitting information or twisting it to create a false belief, we have to inhibit the way things are to create an illusion of the way we wish them to be. In each case, there is conflict between one version of reality and another. In each case, the electrical and chemical choreography of the brain recruits its braking mechanism, stifling one piece of knowledge in the service of lifting another to the surface of our lips. We perfect this capacity over the course of development. Some are born lacking this capacity. Others have a system that is out of control, unable to distinguish truths from falsehoods. Somewhere along this spectrum are healthy members of society who have the potential to justify themselves and a society of willing listeners about the importance of becoming willing executioners, a phrase coined by the historian Daniel Goldhagen to describe Germans involved in the Holocaust.

*Desire + Denial.* We all carry out this sum easily, often automatically and unconsciously. When we are pushed by a desire to eliminate others or to achieve some other goal, we call on denial to justify both extraordinary means and exceptional ends. We convince ourselves that we are morally in the right and that extermination or manipulation are our only options. We convince ourselves that the other is an object or animal, emotionally inert or unrecognizable. We shrink our moral circle, creating a culture of indifference. We convince ourselves through self-deception that the other is a threat. When we feel threatened, we raise our hackles in self-defense. When self-defense steps forward it recruits violence, justified by the belief that fighting back is not only right, but obligatory. Once violence starts, supported by a moral imperative, uncontrollable escalation follows, leaving a trail of dead bodies, raped women, and abducted children. Desire couples with denial. Once this liaisons forms, it evolves, grows and feeds on itself. We have arrived at excessive harms. We have arrived at evil.

What can we do? How can we harness our understanding of evil to predict when it might occur again? Can we reduce future danger?

## *Future dangerousness*

Why do we allow 16 year olds to drive in many parts of the United States, but prevent them from drinking alcohol until 21 and from renting a car until 25? Why must the President of the United States be at least 35 years old, but members of the House of Representatives can enter at 25? If 16 is the magic number for driving, why isn't it also the magic number for drinking, voting, becoming president, marrying without parental consent, joining the military, and being executed for a felony murder? Or why not make 21 the magic age for all age-restricted behaviors and positions? This would make sense in terms of our biology: it is precisely around the age of 21 that our frontal lobes have matured more completely, thereby providing us with a more functional engine for self-control. Or, why not question why we have a legal age at all? Why not have a brain scan for frontal lobe maturation along with a test for self-control that would allow some pre-16 year olds to drive, but might prevent some post-21 year olds from drinking? And if you are in favor of the death penalty — I'm not — than why not detach it from age altogether and look at the individual's moral competence and capacity for self-control?

These are hard questions. How we answer them will have resounding implications for law and society. When a legal system decides that someone can drive, drink, vote, kill, run for president, marry, and die as a penalty for crime, it has constrained human behavior based on a statistical evaluation of psychological capacity. In each case, our assignment of age-appropriateness indicates that we believe the person is responsible for his or her actions and thus, his or her future actions. It also indicates that those under age are not responsible for their actions. We grant permission to drive at 16 years of age because we believe that *most* 16 years olds are capable of driving responsibly, now and in the future. We believe that a person who committed a heinous crime at the age of 18 is responsible for harming others and is likely to do so in the future. He or she is thus eligible for the death penalty, at least in some states within the United States. In contrast, we believe that someone at the age of 17 is still developing and has the potential to change. In this sense, we hold them less responsible for their actions.

Looking out at the tapestry of age-limited situations reveals a rather eclectic pastiche. In many of these cases, the cut-off age seems both arbitrary and inappropriate given the statistics. Consider the legal driving age. Is it the case that 16 year olds are responsible drivers? 16 years olds have higher crash rates than any other age group in the United States, are more likely to die in a car crash than the average of all other age groups, and car crashes are the leading cause of death among 16 year olds. North Dakotans believe that 14 year olds can drive a car. They may have fewer drivers on the road, but that doesn't mean that a 14 year old won't hit them or drive off the road after irresponsibly drinking. Why not keep all youths off the road until 21 when the statistics on fatal car crashes drop? Or why not follow the lead of car rental agencies and wait for the 25th birthday?

There are at least two common answers to the driving age problem, both utilitarian: in farming communities, and other environments where children work with their parents, it is essential to have children driving as soon as possible; and throughout the country, many parents look forward to the day when their children can drive, thereby alleviating the need for their private chauffeur service. There is no question that these are benefits. But if the cost is death to the child and others, the economics just don't work out. One option would be to lower the legal driving age for those communities or situations in which parents demonstrate the significance of young children driving for their financial security and well being. Those without this justification must wait until they are 21, frontal lobes matured and the novelty of intoxication lowered.

The most interesting and relevant age-related issue is when someone is treated as an adult as opposed to a juvenile criminal. Within the United States, most states set the bar at 18 years, but some as young as 16. Where a state sets its bar determines whether or not the individual is eligible for the death penalty or a life sentence, as well as a host of social services. Many states with the bar currently set below 18, including my own state of Massachusetts, are presently debating whether the age limit should be raised. For some, the issue is simply one of parity: this is not an issue where states should differ, and thus everyone should be with the majority at 18 years. Others add to this discussion by arguing that it should be 18 because of brain maturation. Although it is absolutely the case that a more mature brain brings with it better self-control and less sensation-seeking or risk-taking, there is no evidence of a reliable difference between 16, 17 and 18 year olds. Some 16 year olds are remarkably patient and risk-averse whereas some 18 years olds are remarkably impulsive and risk-prone. If this is to be a meaningful discussion about future risks, plasticity, and the opportunity for rehabilitation, it will have to grapple with the scientific evidence that is presently on offer.

When we use age to distinguish between legally permissible and forbidden actions, we have acknowledged that our biology and upbringing represent mitigating factors. We believe that juvenile crimes are forgivable and their actions correctable. In fact, their crimes are forgivable because their actions are correctable. Once we admit nature and nurture into the legal calculus concerning our youths, we must also allow such factors to guide our decisions about adults with developmental disorders, brain damage, and different genetic make-up. Yet, the law seems to have a double standard: youths lack free will, whereas adults have it, even if it is somewhat diminished. But if we believe that juveniles lack a sufficiently mature capacity for self-control, planning and thinking about alternative options, then we must recognize that fully mature adults can lose these capacities as they naturally age, and can lose them at any age if they suffer from brain damage. We must also wrestle with the fact that some people are born with a genetic constitution that makes them more vulnerable to addictions, sensation-seeking, violence, and a lack of compassion. Perhaps they too should be banned from driving, voting, drinking, marrying and military combat. When do we look at the excessive harms caused by individuals or groups and hold them responsible? When do we punish them to pay for their crimes and fend off future atrocities?

The law often invokes the notion of future dangerousness as a means of evaluating risk. So too does the public and media. The general presumption is that for certain kinds of offences, there is a predictably high level of recidivism, of doing the same thing over and over again. But the implication of this judgment is that those who are deemed guilty are, in some way, not responsible for their future. Their future is determined for them. In fact, it is so determined that the law is willing to make a confident wager and send these criminals to prison or to their death. On this view, someone who has already repeated a crime is more likely to repeat than someone who has only committed a crime once. On this view, those who engage in certain kinds of crimes, such as child molesters and rapists, are more likely to repeat because it is "in" their system. Unfortunately, both folk perception and legal analysis of future dangerousness are based on weak evidence, unfounded assumptions, or both.

Consider sexual offenders. Their crime is intentional, frequently repeated, and aimed at innocent victims. Given that many sexual offenders repeat their offenses, it has the appearance of inevitability, of a process that is highly determined. Because many sexual offenders were abused as children, some experts conclude that we should blame their parents. Other experts believe that particular situations either promote or support sexual offenders, including the church and medical exam rooms. And yet other experts, including the psychiatrist Boris Schiffer, reveal brain differences among pedophiles, including especially the areas involved in reward and self-control. Together, these observations suggest that the combination of a deviant nature and toxic nurture have led to a more deterministic universe. In this universe, sexual offenses are inevitable or so highly probable that we should lock up offenders and post their crimes in every county's registry, and if possible, as replacements for flamingo lawn art.

If this assessment of sexual offenders is right, how should we think about responsibility, blame, and punishment. If sexual offenders can't help themselves, how should we assign blame? How should we assign an appropriate level and form of punishment, if punishment is even appropriate? Studies of recidivism among sexual offenders generate rates as low as 15% and as high as 80%. These studies also reveal that recidivism rates differ for incest perpetrators, rapists, and child molesters. These numbers tell us that even child molesters don't always repeat their crimes. They also tell us that sexual offences should not be lumped, but split apart into their underlying causes and triggers. Like the high odds favoring a horse with a distinguished lineage and top rated jockey, there are high odds favoring repeated sexual molestation in an individual who was sexually abused as a child and enters the clergy. Does this mean that we should all bet on this one horse or forget the race altogether? Does this mean that we should lock up the priest before he has an opportunity to enter his parish? No and No. Neither horse racing nor sexual molestation are that easily determined. Future success and future dangerousness are probabilistic. They represent our best guesses. When the law determines that someone is at high risk of committing a future offense, it doesn't really care whether the individual is perfectly healthy or brain damaged. It cares about risk. In terms of blame and punishment, however, the law cares about the perpetrator's brain. The law cares about a person's capacity to act rationally and independently. It is this capacity that allows us to assign responsibility. It is this capacity that drives many theories of blame and punishment, including the Australian legal scholar Michael Moore's massive treatise *Placing Blame*. These are reasons why scientific understanding of future dangerousness is important for law and society.

Armed with these ideas about future dangerousness, we can return to the list of potential evildoers that I mentioned in the prologue. This list included individuals who caused relatively minor harms such as Reverend Lawrence Murphy and Charles Manson, as well as those who committed much more major harms such as Idi Amin and Mao Zedong. Whether we consider these individuals and their acts as evil is orthogonal to the fact that each one posed a great risk to society. Each of these individuals would have been judged as high risk for causing future danger. Only some of these individuals should have been punished if punishment is guided by our understanding of responsibility and blame. Only those individuals who can take responsibility for their actions and change should be punished. On this view, all of the dictators were rightly blamed and punished. And so too were Jane Toppan, Bernard Madoff, and Charles Granger. In contrast, although Lawrence Murphy should have been locked up as opposed to exiled to a cottage, both Murphy and Charles Manson are more difficult to assess in terms of responsibility, and thus, the appropriateness of punishment. No one would want them walking the streets today, free to rape innocent children or create a cult of murderers. But for the law to evolve, we need better tools to evaluate the biological underpinnings of diminished capacity. These measures, still in the early stages of development, will help refine our understanding of risk, guide our clinical interventions, and contribute to the construction of a safer society.

As we move forward, we must also recognize the rapidly changing landscape, and the future dangerousness of globalization, especially its capacity to breed evildoers. Like authority, conformity, dehumanization, and self-deception which each have both beneficial and toxic personalities, so too does globalization. Globalization has integrated developing countries into the global economy and allowed them to profit from new resources and advances. But globalization has also fragmented these countries by giving them access to resources that corrupt, such as arms for guerrilla leaders and rogue armies. What has changed in the twenty-first century, perhaps as early as the 1990s, is a new form of war, one that is tied to the signature of evil and its expression as excessive harm. No longer are wars confined to state borders, restricted to states and their legitimized militaries, financed by governments and tax revenues, and focused on combatants. Instead, the new wars of the twenty-first century have entirely porous boundaries, are funded by private organizations, run by grass-root groups, and motivated by the use of horrific means to achieve equally horrific ends, including torture, rape, mutilation, and the use and abuse of civilians, women, children and men alike. As a result, international law is effectively, ineffective. Those running these new wars are outside of international law.

The consequence of the new wars extends beyond the travesties experienced by those living in these hot spots to the humanitarian aid workers and journalists who attempt to help the victims. Humanitarian aid is often pirated by rogue militias, and journalists are frequently killed or badly injured. We must therefore face the sad reality that as we ended the twentieth-century and initiated the twenty-first, casualties to non-combatant civilians shifted from few to many. We must face the reality that combating evil will require new laws and new protections for those who risk their lives to aid victims and give voice to their often silent suffering.

## *Evil ever after?*

We won't eradicate evil. Why? Because the capacity for evil is rooted in human nature, born of a promiscuous mind that enables ideas and feelings to flip between beneficial and toxic. Though we institute programs and practices that promote the beneficial, living within every human mind is a toxic neighbor, waiting to move in. Adhering to authorities is beneficial in that great leaders are energizing, empowering, creative, and a source of guidance into a brighter future. But even great leaders can turn toxic, imposing corrosive ideologies and eliminating basic human rights. Conformity is beneficial in that we want to live in a society where norms are followed, providing stability and cooperation. But conformity is toxic when it leads to blind faith and uncritical thinking. Dehumanization is beneficial in allowing us to carry out medical procedures and live with certain kinds of human suffering. But dehumanization is toxic when it facilitates ethnic cleansing by shrinking the moral circle, turning atrocities into virtuous offerings. Tolerance and pluralism are beneficial in that they lead to respect and concern for others' attitudes and desires. But tolerance and pluralism are toxic when they breed apathy and a willingness to stand by as passive bystanders.

My diagnosis of evil is not meant to be defeatist, but realist. It is only through an acknowledgment of our biology and the environments it has created — and can create — that we can look for solutions to ameliorate the human condition. We are all vulnerable to walking on the wrong side. We are fallible. We are also enormously creative, capable of great change. Like no other species, we relentlessly seek novelty. No one wants to be like his or her predecessor. Whether it is a new culinary tradition, extreme sport, technological innovation, musical genre, or weapon of destruction, our search for novelty is an indestructible component of human nature.

Our journey into the nature of evil has come to an end. Bombarded by the sheer magnitude of lives lost or damaged beyond repair, it is natural to deaden our senses and choke our feelings in the hope of finding solitude and peace. As painful as a re-awakening is, we must remember the individuals that make up these massive atrocities. Reflecting upon the loss of his son who was murdered by the Lord's Resistance Army, an 80 year old Ugandan chief summed it up — "We have been forgotten. It's as if we don't exist."

We must never forget. We must never deny our potential to cause horrific pain and suffering while finding ways to forgive and express deep compassion. We must never give up on humanity.

# Endnotes: Epilogue

*Recommended Books:*

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*Quotes:*

- Human Rights Watch Report, 2010, "The Trail of Death"

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**Importance**: High

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Ben Goertzel with Cassio Pennachin & Nil Geisweiller &
the OpenCog Team

# Engineering General Intelligence, Part 1:

## A Path to Advanced AGI via Embodied Learning and Cognitive Synergy

September 19, 2013

*This book is dedicated by Ben Goertzel to his beloved, departed grandfather, Leo Zwell – an amazingly warm-hearted, giving human being who was also a deep thinker and excellent scientist, who got Ben started on the path of science. As a careful experimentalist, Leo would have been properly skeptical of the big hypotheses made here – but he would have been eager to see them put to the test!*

# Preface

This is a large, two-part book with an even larger goal: To outline a practical approach to engineering software systems with general intelligence at the human level and ultimately beyond. Machines with flexible problem-solving ability, open-ended learning capability, creativity and eventually, their own kind of genius.

Part 1, this volume, reviews various critical conceptual issues related to the nature of intelligence and mind. It then sketches the broad outlines of a novel, integrative architecture for Artificial General Intelligence (AGI) called CogPrime ... and describes an approach for giving a young AGI system (CogPrime or otherwise) appropriate experience, so that it can develop its own smarts, creativity and wisdom through its own experience. Along the way a formal theory of general intelligence is sketched, and a broad roadmap leading from here to human-level artificial intelligence. Hints are also given regarding how to eventually, potentially create machines advancing beyond human level – including some frankly futuristic speculations about strongly self-modifying AGI architectures with flexibility far exceeding that of the human brain.

Part 2 then digs far deeper into the details of CogPrime's multiple structures, processes and functions, culminating in a general argument as to why we believe CogPrime will be able to achieve general intelligence at the level of the smartest humans (and potentially greater), and a detailed discussion of how a CogPrime-powered virtual agent or robot would handle some simple practical tasks such as social play with blocks in a preschool context. It first describes the CogPrime software architecture and knowledge representation in detail; then reviews the cognitive cycle via which CogPrime perceives and acts in the world and reflects on itself; and next turns to various forms of learning: procedural, declarative (e.g. inference), simulative and integrative. Methods of enabling natural language functionality in CogPrime are then discussed; and then the volume concludes with a chapter summarizing the argument that CogPrime can lead to human-level (and eventually perhaps greater) AGI, and a chapter giving a thought experiment describing the internal dynamics via which a completed CogPrime system might solve the problem of obeying the request "Build me something with blocks that I haven't seen before."

The chapters here are written to be read in linear order – and if consumed thus, they tell a coherent story about how to get from here to advanced AGI. However, the impatient reader may be forgiven for proceeding a bit nonlinearly. An alternate reading path for the impatient reader would be to start with the first few chapters of Part 1, then skim the final two chapters of Part 2, and then return to reading in linear order. The final two chapters of Part 2 give a broad overview of why we think the CogPrime design will work, in a way that depends on the technical details of the previous chapters, but (we believe) not so sensitively as to be incomprehensible without them.

This is admittedly an unusual sort of book, mixing demonstrated conclusions with unproved conjectures in a complex way, all oriented toward an extraordinarily ambitious goal. Further, the chapters are somewhat variant in their levels of detail – some very nitty-gritty, some more high level, with much of the variation due to how much concrete work has been done on the topic of the chapter at time of writing. However, it is important to understand that the ideas presented here are not mere armchair speculation – they are currently being used as the basis for an open-source software project called OpenCog, which is being worked on by software developers around the world. Right now OpenCog embodies only a percentage of the overall CogPrime design as described here. But if OpenCog continues to attract sufficient funding or volunteer interest, then the ideas presented in these volumes will be validated or refuted via practice. (As a related note: here and there in this book, we will refer to the "current" CogPrime implementation (in the OpenCog framework); in all cases this refers to OpenCog as of late 2013.)

To state one believes one knows a workable path to creating a human-level (and potentially greater) general intelligence is to make a dramatic statement, given the conventional way of thinking about the topic in the contemporary scientific community. However, we feel that once a little more time has passed, the topic will lose its drama (if not its interest and importance), and it will be widely accepted that there are *many* ways to create intelligent machines – some simpler and some more complicated; some more brain-like or human-like and some less so; some more efficient and some more wasteful of resources; etc. We have little doubt that, from the perspective of AGI science 50 or 100 years hence (and probably even 10-20 years hence), the specific designs presented here will seem awkward, messy, inefficient and circuitous in various respects. But that is how science and engineering progress. Given the current state of knowledge and understanding, having *any* concrete, comprehensive design and plan for creating AGI is a significant step forward; and it is in this spirit that we present here our thinking about the CogPrime architecture and the nature of general intelligence.

In the words of Sir Edmund Hillary, the first to scale Everest: “Nothing Venture, Nothing Win.”

## *Prehistory of the Book*

The writing of this book began in earnest in 2001, at which point it was informally referred to as “The Novamente Book.” The original “Novamente Book” manuscript ultimately got too big for its own britches, and subdivided into a number of different works – *The Hidden Pattern* [Goe06a], a philosophy of mind book published in 2006; *Probabilistic Logic Networks* [GIGH08], a more technical work published in 2008; *Real World Reasoning* [GGC$^+$11], a sequel to *Probabilistic Logic Networks* published in 2011; and the two parts of this book.

The ideas described in this book have been the collaborative creation of multiple overlapping communities of people over a long period of time. The vast bulk of the writing here was done by Ben Goertzel; but Cassio Pennachin and Nil Geisweiller made sufficient writing, thinking and editing contributions over the years to more than merit their inclusion of co-authors. Further, many of the chapters here have co-authors beyond the three main co-authors of the book; and the set of chapter co-authors does not exhaust the set of significant contributors to the ideas presented.

The core concepts of the CogPrime design and the underlying theory were conceived by Ben Goertzel in the period 1995-1996 when he was a Research Fellow at the University of Western Australia; but those early ideas have been elaborated and improved by many more people than can be listed here (as well as by Ben's ongoing thinking and research). The collaborative design process ultimately resulting in CogPrime started in 1997 when Intelligenesis Corp. was formed – the Webmind AI Engine created in Intelligenesis's research group during 1997-2001 was the predecessor to the Novamente Cognition Engine created at Novamente LLC during 2001-2008, which was the predecessor to CogPrime.

## *Acknowledgements*

For sake of simplicity, this acknowledgements section is presented from the perspective of the primary author, Ben Goertzel. Ben will thus begin by expressing his thanks to his primary co-authors, Cassio Pennachin (collaborator since 1998) and Nil Geisweiller (collaborator since 2005). Without outstandingly insightful, deep-thinking colleagues like you, the ideas presented here – let alone the book itself– would not have developed nearly as effectively as what has happened. Similar thanks also go to the other OpenCog collaborators who have co-authored various chapters of the book.

Beyond the co-authors, huge gratitude must also be extended to everyone who has been involved with the OpenCog project, and/or was involved in Novamente LLC and Webmind Inc. before that. We are grateful to all of you for your collaboration and intellectual companionship!

Building a thinking machine is a huge project, too big for any one human; it will take a team and I'm happy to be part of a great one. It is through the genius of human collectives, going beyond any individual human mind, that genius machines are going to be created.

A tiny, incomplete sample from the long list of those others deserving thanks is:

- Ken Silverman and Gwendalin Qi Aranya (formerly Gwen Goertzel), both of whom listened to me talk at inordinate length about many of the ideas presented here a long, long time before anyone else was interested in listening. Ken and I schemed some AGI designs at Simon's Rock College in 1983, years before we worked together on the Webmind AI Engine.
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*Ben Goertzel*

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# Chapter 1
# Introduction

## 1.1 AI Returns to Its Roots

Our goal in this book is straightforward, albeit ambitious: to present a conceptual and technical design for a thinking machine, a software program capable of the same qualitative sort of general intelligence as human beings. It's not certain exactly how far the design outlined here will be able to take us, but it seems plausible that once fully implemented, tuned and tested, it will be able to achieve general intelligence at the human level and in some respects beyond.

Our ultimate aim is Artificial General Intelligence construed in the broadest sense, including artificial creativity and artificial genius. We feel it is important to emphasize the extremely broad potential of Artificial General Intelligence systems. The human brain is not built to be modified, except via the slow process of evolution. Engineered AGI systems, built according to designs like the one outlined here, will be much more susceptible to rapid improvement from their initial state. It seems reasonable to us to expect that, relatively shortly after achieving the first roughly human-level AGI system, AGI systems with various sorts of beyond-human-level capabilities will be achieved.

Though these long-term goals are core to our motivations, we will spend much of our time here explaining how we think we can make AGI systems do relatively simple things, like the things human children do in preschool. The penultimate chapter of (Part 2 of) the book describes a thought-experiment involving a robot playing with blocks, responding to the request "Build me something I haven't seen before." We believe that preschool creativity contains the seeds of, and the core structures and dynamics underlying, adult human level genius ... and new, as yet unforeseen forms of artificial innovation.

Much of the book focuses on a specific AGI architecture, which we call CogPrime, and which is currently in the midst of implementation using the OpenCog software framework. CogPrime is large and complex and embodies a host of specific decisions regarding the various aspects of intelligence. We don't view CogPrime as the unique path to advanced AGI, nor as the ultimate end-all of AGI research. We feel confident there are multiple possible paths to advanced AGI, and that in following any of these paths, multiple theoretical and practical lessons will be learned, leading to modifications of the ideas possessed while along the early stages of the path. But our goal here is to articulate **one** path that we believe makes sense to follow, one overall design that we believe can work.

## 1.2 AGI versus Narrow AI

An outsider to the AI field might think this sort of book commonplace in the research literature, but insiders know that's far from the truth. The field of Artificial Intelligence (AI) was founded in the mid 1950s with the aim of constructing "thinking machines" - that is, computer systems with human-like general intelligence, including humanoid robots that not only look but act and think with intelligence equal to and ultimately greater than human beings. But in the intervening years, the field has drifted far from its ambitious roots, and this book represents part of a movement aimed at restoring the initial goals of the AI field, but in a manner powered by new tools and new ideas far beyond those available half a century ago.

After the first generation of AI researchers found the task of creating human-level AGI very difficult given the technology of their time, the AI field shifted focus toward what Ray Kurzweil has called "narrow AI" – the understanding of particular specialized aspects of intelligence; and the creation of AI systems displaying intelligence regarding specific tasks in relatively narrow domains. In recent years, however, the situation has been changing. More and more researchers have recognized the necessity – and feasibility – of returning to the original goals of the field.

In the decades since the 1950s, cognitive science and neuroscience have taught us a lot about what a cognitive architecture needs to look like to support roughly human-like general intelligence. Computer hardware has advanced to the point where we can build distributed systems containing large amounts of RAM and large numbers of processors, carrying out complex tasks in real time. The AI field has spawned a host of ingenious algorithms and data structures, which have been successfully deployed for a huge variety of purposes.

Due to all this progress, increasingly, there has been a call for a transition from the current focus on highly specialized "narrow AI" problem solving systems, back to confronting the more difficult issues of "human level intelligence" and more broadly "artificial general intelligence (AGI)." Recent years have seen a growing number of special sessions, workshops and conferences devoted specifically to AGI, including the annual BICA (Biologically Inspired Cognitive Architectures) AAAI Symposium, and the international AGI conference series (one in 2006, and annual since 2008). And, even more exciting, as reviewed in Chapter 4, there are a number of contemporary projects focused directly and explicitly on AGI (sometimes under the name "AGI", sometimes using related terms such as "Human Level Intelligence").

In spite of all this progress, however, we feel that no one has yet clearly articulated a detailed, systematic design for an AGI, with potential to yield general intelligence at the human level and ultimately beyond. In this spirit, our main goal in this lengthy two-part book is to outline a novel *design for a thinking machine* – an AGI design which we believe has the capability to produce software systems with intelligence at the human adult level and ultimately beyond. Many of the technical details of this design have been previously presented online in a wikibook [Goe10b]; and the basic ideas of the design have been presented briefly in a series of conference papers [GPSL03, GPPG06, Goe09c]. But the overall design has not been presented in a coherent and systematic way before this book. In order to frame this design properly, we also present a considerable number of broader theoretical and conceptual ideas here, some more and some less technical in nature.

## 1.3 CogPrime

The AGI design presented here has not previously been granted a name independently of its particular software implementations, but for the purposes of this book it needs one, so we've christened it **CogPrime** . This fits with the name "OpenCogPrime" that has already been used to describe the software implementation of CogPrime within the open-source OpenCog AGI software framework. The OpenCogPrime software, right now, implements only a small fraction of the CogPrime design as described here. However, OpenCog was designed specifically to enable efficient, scalable implementation of the full CogPrime design (as well as to serve as a more general framework for AGI R&D); and work currently proceeds in this direction, though there is a lot of work still to be done and many challenges remain. [1]

The CogPrime design is more comprehensive and thorough than anything that has been presented in the literature previously, including the work of others reviewed in Chapter 4. It covers all the key aspects of human intelligence, and explains how they interoperate and how they can be implemented in digital computer software. Part 1 of this work outlines CogPrime at a high level, and makes a number of more general points about artificial general intelligence and the path thereto; then Part 2 digs deeply into the technical particulars of CogPrime. Even Part 2, however, doesn't explain all the details of CogPrime that have been worked out so far, and it definitely doesn't explain all the implementation details that have gone into designing and building OpenCogPrime. Creating a thinking machine is a large task, and even the intermediate level of detail takes up a lot of pages.

## 1.4 The Secret Sauce

There is no consensus on why all the related technological and scientific progress mentioned above has not yet yielded AI software systems with human-like general intelligence (or even greater levels of brilliance!). However, we hypothesize that the core reason boils down to the following three points:

- Intelligence depends on the emergence of certain high-level structures and dynamics across a system's whole knowledge base;
- We have not discovered any one algorithm or approach capable of yielding the emergence of these structures;
- Achieving the emergence of these structures within a system formed by integrating a number of different AI algorithms and structures requires careful attention to the manner in which

---

[1] This brings up a terminological note: At several places in this Volume and the next we will refer to the current CogPrime or OpenCog implementation; in all cases this refers to OpenCog as of late 2013. We realize the risk of mentioning the state of our software system at time of writing: for future readers this may give the wrong impression, because if our project goes well, more and more of CogPrime will get implemented and tested as time goes on (e.g. within the OpenCog framework, under active development at time of writing). However, not mentioning the current implementation at all seems an even worse course to us, since we feel readers will be interested to know which of our ideas – at time of writing – have been honed via practice and which have not. Online resources such as `http://opencog.org` may be consulted by readers curious about the current state of the main OpenCog implementation; though in future forks of the code may be created, or other systems may be built using some or all of the ideas in this book, etc.

these algorithms and structures are integrated; and so far the integration has not been done in the correct way.

The human brain appears to be an integration of an assemblage of diverse structures and dynamics, built using common components and arranged according to a sensible cognitive architecture. However, its algorithms and structures have been honed by evolution to work closely together – they are very tightly inter-adapted, in the same way that the different organs of the body are adapted to work together. Due to their close interoperation they give rise to the overall systemic behaviors that characterize human-like general intelligence. We believe that the main missing ingredient in AI so far is **cognitive synergy**: the fitting-together of different intelligent components into an appropriate cognitive architecture, in such a way that the components richly and dynamically support and assist each other, interrelating very closely in a similar manner to the components of the brain or body and thus giving rise to appropriate emergent structures and dynamics. This leads us to one of the central hypotheses underlying the CogPrime approach to AGI: that **the cognitive synergy ensuing from integrating multiple symbolic and subsymbolic learning and memory components in an appropriate cognitive architecture and environment, can yield robust intelligence at the human level and ultimately beyond.**

The reason this sort of intimate integration has not yet been explored much is that it's difficult on multiple levels, requiring the design of an architecture and its component algorithms with a view toward the structures and dynamics that will arise in the system once it is coupled with an appropriate environment. Typically, the AI algorithms and structures corresponding to different cognitive functions have been developed based on divergent theoretical principles, by disparate communities of researchers, and have been tuned for effective performance on different tasks in different environments. Making such diverse components work together in a truly synergetic and cooperative way is a tall order, yet we believe that this – rather than some particular algorithm, structure or architectural principle – is the "secret sauce" needed to create human-level AGI based on technologies available today.

## 1.5 Extraordinary Proof?

There is a saying that "extraordinary claims require extraordinary proof" and by that standard, if one believes that having a design for an advanced AGI is an extraordinary claim, this book must be rated a failure. We don't offer extraordinary proof that CogPrime, once fully implemented and educated, will be capable of human-level general intelligence and more.

It would be nice if we could offer mathematical proof that CogPrime has the potential we think it does, but at the current time mathematics is simply not up to the job. We'll pursue this direction briefly in Chapter 7 and other chapters, where we'll clarify exactly what kind of mathematical claim "CogPrime has the potential for human-level intelligence" turns out to be. Once this has been clarified, it will be clear that current mathematical knowledge does not yet let us evaluate, or even fully formalize, this kind of claim. Perhaps one day rigorous and detailed analyses of practical AGI designs will be feasible – and we look forward to that day – but it's not here yet.

Also, it would of course be profoundly exciting if we could offer dramatic practical demonstrations of CogPrime's capabilities. We do have a partial software implementation, in the OpenCogPrime system, but currently the things OpenCogPrime does are too simple to really serve as proofs of CogPrime's power for advanced AGI. We have used some CogPrime ideas in the OpenCog framework to do things like natural language understanding and data mining, and to control virtual dogs in online virtual worlds; and this has been very useful work in multiple senses. It has taught us more about the CogPrime design; it has produced some useful software systems; and it constitutes fractional work building toward a full OpenCog based implementation of CogPrime. However, to date, the things OpenCogPrime has done are all things that could have been done in different ways without the CogPrime architecture (though perhaps not as elegantly nor with as much room for interesting expansion).

The bottom line is that building an AGI is a big job. Software companies like Microsoft spend dozens to hundreds of man-years building software products like word processors and operating systems, so it should be no surprise that creating a digital intelligence is also a relatively large-scale software engineering project. As time advances and software tools improve, the number of man-hours required to develop advanced AGI gradually decreases – but right now, as we write these words, it's still a rather big job. In the OpenCogPrime project we are making a serious attempt to create a CogPrime based AGI using an open-source development methodology, with the open-source Linux operating system as one of our inspirations. But the open-source methodology doesn't work magic either, and it remains a large project, currently at an early stage. I emphasize this point so that readers lacking software engineering expertise don't take the currently fairly limited capabilities of OpenCogPrime as somehow a damning indictment of the potential of the CogPrime design. The design is one thing, the implementation another – and the OpenCogPrime implementation currently encompasses perhaps one third to one half of the key ideas in this book.

So we don't have extraordinary proof to offer. What we aim to offer instead are clearly-constructed conceptual and technical arguments as to why we think the CogPrime design has dramatic AGI potential.

It is also possible to push back a bit on the common intuition that having a design for human-level AGI is such an "extraordinary claim." It may be extraordinary relative to contemporary science and culture, but we have a strong feeling that the AGI problem is not difficult in the same ways that most people (including most AI researchers) think it is. We suspect that in hindsight, after human-level AGI has been achieved, people will look back in shock that it took humanity so long to come up with a workable AGI design. As you'll understand once you've finished Part 1 of the book, we don't think general intelligence is nearly as "extraordinary" and mysterious as it's commonly made out to be. Yes, building a thinking machine is hard – but humanity has done a lot of other hard things before. It may seem difficult to believe that human-level general intelligence could be achieved by something as simple as a collection of algorithms linked together in an appropriate way and used to control an agent. But we suggest that, once the first powerful AGI systems are produced, it will become apparent that engineering human-level minds is not so profoundly different from engineering other complex systems.

All in all, we'll consider the book successful if a significant percentage of open-minded, appropriately-educated readers come away from it scratching their chins and pondering: *"Hmm. You know, that just might work."* and a small percentage come away thinking *"Now that's an initiative I'd really like to help with!"*.

## 1.6 Potential Approaches to AGI

In principle, there is a large number of approaches one might take to building an AGI, starting from the knowledge, software and machinery now available. This is not the place to review them in detail, but a brief list seems apropos, including commentary on why these are not the approaches we have chosen for our own research. Our intent here is not to insult or dismiss these other potential approaches, but merely to indicate why, as researchers with limited time and resources, we have made a different choice regarding where to focus our own energies.

### *1.6.1 Build AGI from Narrow AI*

Most of the AI programs around today are "narrow AI" programs – they carry out one particular kind of task intelligently. One could try to make an advanced AGI by combining a bunch of enhanced narrow AI programs inside some kind of overall framework.

However, we're rather skeptical of this approach because none of these narrow AI programs have the ability to generalize across domains – and we don't see how combining them or extending them is going to cause this to magically emerge.

### *1.6.2 Enhancing Chatbots*

One could seek to make an advanced AGI by taking a chatbot, and trying to improve its code to make it actually understand what it's talking about. We have some direct experience with this route, as in 2010 our AI consulting firm was contracted to improve Ray Kurzweil's online chatbot "Ramona". Our new Ramona understands a lot more than the previous Ramona version or a typical chatbot, due to using Wikipedia and other online resources, but still it's far from an AGI.

A more ambitious attempt in this direction was Jason Hutchens' a-i.com project, which sought to create a human child level AGI via development and teaching of a statistical learning based chatbot (rather than the typical rule-based kind). The difficulty with this approach, however, is that the architecture of a chatbot is fundamentally different from the architecture of a generally intelligent mind. Much of what's important about the human mind is not directly observable in conversations, so if you start from conversation and try to work toward an AGI architecture from there, you're likely to miss many critical aspects.

### *1.6.3 Emulating the Brain*

One can approach AGI by trying to figure out how the brain works, using brain imaging and other tools from neuroscience, and then emulating the brain in hardware or software.

One rather substantial problem with this approach is that we don't really understand how the brain works yet, because our software for measuring the brain is still relatively crude. There is no brain scanning method that combines high spatial and temporal accuracy, and none is likely to come about for a decade or two. So to do brain-emulation AGI seriously, one needs to wait a while until brain scanning technology improves.

Current AI methods like neural nets that are loosely based on the brain, are really not brain-like enough to make a serious claim at emulating the brain's approach to general intelligence. We don't yet have any real understanding of how the brain represents abstract knowledge, for example, or how it does reasoning (though the authors, like many others, have made some speculations in this regard [GMIH08]).

Another problem with this approach is that once you're done, what you get is something with a very humanlike mind, and we already have enough of those! However, this is perhaps not such a serious objection, because a digital-computer-based version of a human mind could be studied much more thoroughly than a biology-based human mind. We could observe its dynamics in real-time in perfect precision, and could then learn things that would allow us to build other sorts of digital minds.

### *1.6.4 Evolve an AGI*

Another approach is to try to run an evolutionary process inside the computer, and wait for advanced AGI to evolve.

One problem with this is that we don't know how evolution works all that well. There's a field of artificial life, but so far its results have been fairly disappointing. It's not yet clear how much one can vary on the chemical structures that underly real biology, and still get powerful evolution like we see in real biology. If we need good artificial chemistry to get good artificial biology, then do we need good artificial physics to get good artificial chemistry?

Another problem with this approach, of course, is that it might take a really long time. Evolution took billions of years on Earth, using a massive amount of computational power. To make the evolutionary approach to AGI effective, one would need some radical innovations to the evolutionary process (such as, perhaps, using probabilistic methods like BOA [Pel05] or MOSES [Loo06] in place of traditional evolution).

### *1.6.5 Derive an AGI design mathematically*

One can try to use the mathematical theory of intelligence to figure out how to make advanced AGI.

This interests us greatly, but there's a huge gap between the rigorous math of intelligence as it exists today and anything of practical value. As we'll discuss in Chapter 7, most of the rigorous math of intelligence right now is about how to make AI on computers with dramatically unrealistic amounts of memory or processing power. When one tries to create a theoretical understanding of real-world general intelligence, one arrives at quite different sorts of considerations, as we will roughly outline in Chapter 10. Ideally we would like to be able to study the CogPrime design using a rigorous mathematical theory of real-world general intelligence, but at the moment that's not realistic. The best we can do is to conceptually analyze CogPrime and its various components in terms of relevant mathematical and theoretical ideas; and perform analysis of CogPrime's individual structures and components at varying levels of rigor.

### *1.6.6 Use heuristic computer science methods*

The computer science field contains a number of abstract formalisms, algorithms and structures that have relevance beyond specific narrow AI applications, yet aren't necessarily understood as thoroughly as would be required to integrate them into the rigorous mathematical theory of intelligence. Based on these formalisms, algorithms and structures, a number of "single formalism/algorithm focused" AGI approaches have been outlined, some of which will be reviewed in Chapter 4. For example Pei Wang's NARS ("Non-Axiomatic Reasoning System") approach is based on a specific logic which he argues to be the "logic of general intelligence" – so, while his system contains many other aspects than this logic, he considers this logic to be the crux of the system and the source of its potential power as an AGI system.

The basic intuition on the part of these "single formalism/algorithm focused" researchers seems to be that there is one key formalism or algorithm underlying intelligence, and if you achieve this key aspect in your AGI program, you're going to get something that fundamentally thinks like a person, even if it has some differences due to its different implementation and embodiment. On the other hand, it's also possible that this idea is philosophically incorrect: that there is no one key formalism, algorithm, structure or idea underlying general intelligence. The CogPrime approach is based on the intuition that to achieve human-level, roughly human-like general intelligence based on feasible computational resources, one needs an appropriate heterogeneous combination of algorithms and structures, each coping with different types of knowledge and different aspects of the problem of achieving goals in complex environments.

### *1.6.7 Integrative Cognitive Architecture*

Finally, to create advanced AGI one can try to build some sort of integrative cognitive architecture: a software system with multiple components that each carry out some cognitive function, and that connect together in a specific way to try to yield overall intelligence.

Cognitive science gives us some guidance about the overall architecture, and computer science and neuroscience give us a lot of ideas about what to put in the different components. But still this approach is very complex and there is a lot of need for creative invention.

This is the approach we consider most "serious" at present (at least until neuroscience advances further). And, as will be discussed in depth in these pages, this is the approach we've chosen: CogPrime is an integrative AGI architecture.

### *1.6.8 Can Digital Computers Really Be Intelligent?*

All the AGI approaches we've just mentioned assume that it's possible to make AGI on digital computers. While we suspect this is correct, we must note that it isn't proven.

It might be that – as Penrose [Pen96], Hameroff [Ham87] and others have argued – we need quantum computers or quantum gravity computers to make AGI. However, there is no evidence of this at this stage. Of course the brain like all matter is described by quantum mechanics, but this doesn't imply that the brain is a "macroscopic quantum system" in a strong sense (like, say, a Bose-Einstein condensate). And even if the brain does use quantum phenomena in a dramatic way to carry out some of its cognitive processes (a hypothesis for which there is no current evidence), this doesn't imply that these quantum phenomena are *necessary* in order to carry out the given cognitive processes. For example there is evidence that birds use quantum nonlocal phenomena to carry out navigation based on the Earth's magnetic fields [GRM+11]; yet scientists have built instruments that carry out the same functions without using any special quantum effects. The importance of quantum phenomena in biology (except via their obvious role in giving rise to biological phenomena describable via classical physics) remains a subject of debate [AGBD+08].

Quantum "magic" aside, it is also conceivable that building AGI is fundamentally impossible for some *other* reason we don't understand. Without getting religious about it, it is rationally quite possible that some aspects of the universe are beyond the scope of scientific methods. Science is fundamentally about recognizing patterns in finite sets of bits (e.g. finite sets of finite-precision observations), whereas mathematics recognizes many sets much larger than this. Selmer Bringsjord [BZ03], and other advocates of "hypercomputing" approaches to intelligence, argue that the human mind depends on massively large infinite sets and therefore can never be simulated on digital computers nor understood via finite sets of finite-precision measurements such as science deals with.

But again, while this sort of possibility is interesting to speculate about, there's no real reason to believe it at this time. Brain science and AI are both very young sciences and the "working hypothesis" that digital computers can manifest advanced AGI has hardly been explored at all yet, relative to what will be possible in the next decades as computers get more and more powerful and our understanding of neuroscience and cognitive science gets more and more complete. The CogPrime AGI design presented here is based on this working hypothesis.

Many of the ideas in the book are actually independent of the "mind can be implemented digitally" working hypothesis, and could apply to AGI systems built on analog, quantum or other non-digital frameworks – but we will not pursue these possibilities here. For the moment, outlining an AGI design for digital computers is hard enough! Regardless of speculations about quantum computing in the brain, it seems clear that AGI on quantum computers is part of our future and will be a powerful thing; but the description of a CogPrime analogue for quantum computers will be left for a later work.

## 1.7 Five Key Words

As noted, the CogPrime approach lies squarely in the integrative cognitive architecture camp. But it is not a haphazard or opportunistic combination of algorithms and data structures. At bottom it is motivated by the *patternist* philosophy of mind laid out in Ben Goertzel's book *The Hidden Pattern* [Goe06a], which was in large part a summary and reformulation of ideas presented in a series of books published earlier by the same author [Goe94], [Goe93a], [Goe93b], [Goe97], [Goe01]. A few of the core ideas of this philosophy are laid out in Chapter 3, though that chapter is by no means a thorough summary.

One way to summarize some of the most important yet commonsensical parts of the patternist philosophy of mind, in an AGI context, is to list five words: **perception, memory, prediction, action, goals**.

In a phrase: **"A mind uses perception and memory to make predictions about which actions will help it achieve its goals."**

This ties in with the ideas of many other thinkers, including Jeff Hawkins' "memory/prediction" theory [HB06], and it also speaks directly to the formal characterization of intelligence presented in Chapter 7: general intelligence as "the ability to achieve complex goals in complex environments."

Naturally the goals involved in the above phrase may be explicit or implicit to the intelligent agent, and they may shift over time as the agent develops.

Perception is taken to mean pattern recognition: the recognition of (novel or familiar) patterns in the environment or in the system itself. Memory is the storage of already-recognized patterns, enabling recollection or regeneration of these patterns as needed. Action is the formation of patterns in the body and world. Prediction is the utilization of temporal patterns to guess what perceptions will be seen in the future, and what actions will achieve what effects in the future – in essence, prediction consists of temporal pattern recognition, plus the (implicit or explicit) assumption that the universe possesses a "habitual tendency" according to which previously observed patterns continue to apply.

### *1.7.1 Memory and Cognition in CogPrime*

Each of these five concepts has a lot of depth to it, and we won't say too much about them in this brief introductory overview; but we will take a little time to say something about memory in particular.

As we'll see in Chapter 7, one of the things that the mathematical theory of general intelligence makes clear is that, if you assume your AI system has a huge amount of computational resources, then creating general intelligence is not a big trick. Given enough computing power, a very brief and simple program can achieve any computable goal in any computable environment, quite effectively. Marcus Hutter's $AIXI^{tl}$ design [Hut05] gives one way of doing this, backed up by rigorous mathematics. Put informally, what this means is: the problem of AGI is really a problem of coping with inadequate compute resources, just as the problem of natural intelligence is really a problem of coping with inadequate energetic resources.

One of the key ideas underlying CogPrime is a principle called *cognitive synergy*, which explains how real-world minds achieve general intelligence using limited resources, by appropriately organizing and utilizing their memories.

This principle says that there are many different kinds of memory in the mind: sensory, episodic, procedural, declarative, attentional, intentional. Each of them has certain learning processes associated with it; for example, reasoning is associated with declarative memory. Synergy arises here in the way the learning processes associated with each kind of memory have got to help each other out when they get stuck, rather than working at cross-purposes.

Cognitive synergy is a fundamental principle of *general intelligence* – it doesn't tend to play a central role when you're building narrow-AI systems.

In the CogPrime approach all the different kinds of memory are linked together in a single meta-representation, a sort of combined semantic/neural network called the AtomSpace. It represents everything from perceptions and actions to abstract relationships and concepts and even a system's model of itself and others. When specialized representations are used for other types of knowledge (e.g. program trees for procedural knowledge, spatiotemporal hierarchies for perceptual knowledge) then the knowledge stored outside the AtomSpace is represented via tokens (Atoms) in the AtomSpace, allowing it to be located by various cognitive processes, and associated with other memory items of any type.

So for instance an OpenCog AI system has an AtomSpace, plus some specialized knowledge stores linked into the AtomSpace; and it also has specific algorithms acting on the AtomSpace and appropriate specialized stores corresponding to each type of memory. Each of these algorithms is complex and has its own story; for instance (an incomplete list, for more detail see the following section of this Introduction):

- Declarative knowledge is handled using Probabilistic Logic Networks, described in Chapter 34 and others;
- Procedural knowledge is handled using MOSES, a probabilistic evolutionary learning algorithm described in Chapter 21 and others;
- Attentional knowledge is handled by ECAN (economic attention allocation), described in Chapter 23 and others;
- OpenCog contains a language comprehension system called RelEx that takes English sentences and turns them into nodes and links in the AtomSpace. It's currently being extended to handle Chinese. RelEx handles mostly declarative knowledge but also involves some procedural knowledge for linguistic phenomena like reference resolution and semantic disambiguation.

But the crux of the CogPrime cognitive architecture is not any particular cognitive process, but rather the way they all work together using cognitive synergy.

## 1.8 Virtually and Robotically Embodied AI

Another issue that will arise frequently in these pages is embodiment. There's a lot of debate in the AI community over whether embodiment is necessary for advanced AGI or not. Personally, we doubt it's necessary but we think it's extremely convenient, and are thus considerably interested in both virtual world and robotic embodiment. The CogPrime architecture itself is neutral on the issue of embodiment, and it could be used to build a mathematical theorem prover or an intelligent chat bot just as easily as an embodied AGI system. However, most of our attention has gone into figuring out how to use CogPrime to control embodied agents in virtual worlds, or else (to a lesser extent) physical robots. For instance, during 2011-2012 we are involved in a Hong Kong government funded project using OpenCog to control video game agents in a simple game world modeled on the game Minecraft [GPC+11].

Current virtual world technology has significant limitations that make them far less than ideal from an AGI perspective, and in Chapter 16 we will discuss how they can be remedied. However, for the medium-term future virtual worlds are not going to match the natural world in terms of richness and complexity – and so there's also something to be said for physical robots that interact with all the messiness of the real world.

With this in mind, in the Artificial Brain Lab at Xiamen University in 2009-2010, we conducted some experiments using OpenCog to control the Nao humanoid robot [GD09]. The goal of that work was to take the same code that controls the virtual dog and use it to control the physical robot. But it's harder because in this context we need to do real vision processing and real motor control. A similar project is being undertaken in Hong Kong at time of writing, involving a collaboration between OpenCog AI developers and David Hanson's robotics group. One of the key ideas involved in this project is explicit integration of subsymbolic and more symbolic subsystems. For instance, one can use a purely subsymbolic, hierarchical pattern recognition network for vision processing, and then link its internal structures into the nodes and links in the AtomSpace that represent concepts. So the subsymbolic and symbolic systems can work harmoniously and productively together, a notion we will review in more detail in Chapter 26.

## 1.9 Language Learning

One of the subtler aspects of our current approach to teaching CogPrime is language learning. Three relatively crisp and simple approaches to language learning would be:

- Build a language processing system using hand-coded grammatical rules, based on linguistic theory;
- Train a language processing system using supervised, unsupervised or semisupervised learning, based on computational linguistics;
- Have an AI system learn language via experience, based on imitation and reinforcement and experimentation, without any built-in distinction between linguistic behaviors and other behaviors.

While the third approach is conceptually appealing, our current approach in CogPrime (described in a series of chapters in Part 2) is none of the above, but rather a combination of the above. OpenCog contains a natural language processing system built using a combination of the rule-based and statistical approaches, which has reasonably adequate functionality; and our plan is to use it as an initial condition for ongoing adaptive improvement based on embodied communicative experience.

## 1.10 AGI Ethics

When discussing AGI work with the general public, ethical concerns often arise. Science fiction films like the *Terminator* series have raised public awareness of the possible dangers of advanced AGI systems without correspondingly advanced ethics. Non-profit organizations like the Singularity Institute for AI ( (http://singinst.org) have arisen specifically to raise attention about, and foster research on, these potential dangers.

Our main focus here is on how to create AGI, not how to teach an AGI human ethical principles. However, we will address the latter issue explicitly in Chapter 12, and we do think it's important to emphasize that AGI ethics has been at the center of the design process throughout the conception and development of CogPrime and OpenCog.

Broadly speaking there are (at least) two major threats related to advanced AGI. One is that people might use AGIs for bad ends; and the other is that, even if an AGI is made with the best intentions, it might reprogram itself in a way that causes it to do something terrible. If it's smarter than us, we might be watching it carefully while it does this, and have no idea what's going on.

The best way to deal with this second “bad AGI” problem is to build ethics into your AGI architecture – and we have done this with CogPrime, via creating a goal structure that explicitly supports ethics-directed behavior, and via creating an overall architecture that supports “ethical synergy” along with cognitive synergy. In short, the notion of ethical synergy is that there are different kinds of ethical thinking associated with the different kinds of memory and you want to be sure your AGI has all of them, and that it uses them together effectively.

In order to create AGI that is not only intelligent but beneficial to other sentient beings, ethics has got to be part of the design and the roadmap. As we teach our AGI systems, we need to lead them through a series of instructional and evaluative tasks that move from a primitive level to the mature human level – in intelligence, but also in ethical judgment.

## 1.11 Structure of the Book

The book is divided into two parts. The technical particulars of CogPrime are discussed in Part 2; what we deal with in Part 1 are important preliminary and related matters such as:

- The nature of real-world general intelligence, both conceptually and from the perspective of formal modeling (Section I).
- The nature of cognitive and ethical development for humans and AGIs (Section III).
- The high-level properties of CogPrime, including the overall architecture and the various sorts of memory involved (Section IV).
- What kind of path may viably lead us from here to AGI, with focus laid on preschool-type environments that easily foster humanlike cognitive development. Various advanced aspects of AGI systems, such as the network and algebraic structures that may emerge from them, the ways in which they may self-modify, and the degree to which their initial design may constrain or guide their future state even after long periods of radical self-improvement (Section V).

One point made repeatedly throughout Part 1, which is worth emphasizing here, is the current lack of a really rigorous and thorough general technical theory of general intelligence. Such a theory, if complete, would be incredibly helpful for understanding complex AGI architectures like CogPrime. Lacking such a theory, we must work on CogPrime and other such systems using a combination of theory, experiment and intuition. This is not a bad thing, but it will be very helpful if the theory and practice of AGI are able to grow collaboratively together.

## 1.12 Key Claims of the Book

We will wrap up this Introduction with a systematic list of some of the key claims to be argued for in these pages. Not all the terms and ideas in these claims have been mentioned in the preceding portions of this Introduction, but we hope they will be reasonably clear to the reader anyway, at least in a general sense. This list of claims will be revisited in Chapter 49 near the end of Part 2, where we will look back at the ideas and arguments that have been put forth in favor of them, in the intervening chapters.

In essence this is a list of claims such that, if the reader accepts these claims, they should probably accept that the CogPrime approach to AGI is a viable one. On the other hand if the reader rejects one or more of these claims, they may find one or more aspects of CogPrime unacceptable for some reason.

Without further ado, now, the claims:

1. General intelligence (at the human level and ultimately beyond) can be achieved via creating a computational system that seeks to achieve its goals, via using perception and memory to predict which actions will achieve its goals in the contexts in which it finds itself.
2. To achieve general intelligence in the context of human-intelligence-friendly environments and goals using feasible computational resources, it's important that an AGI system can handle different kinds of memory (declarative, procedural, episodic, sensory, intentional, attentional) in customized but interoperable ways.
3. Cognitive synergy: It's important that the cognitive processes associated with different kinds of memory can appeal to each other for assistance in overcoming bottlenecks in a manner that enables each cognitive process to act in a manner that is sensitive to the particularities of each others' internal representations, and that doesn't impose unreasonable delays on the overall cognitive dynamics.
4. As a general principle, neither purely localized nor purely global memory is sufficient for general intelligence under feasible computational resources; "glocal" memory will be required.
5. To achieve human-like general intelligence, it's important for an intelligent agent to have sensory data and motoric affordances that roughly emulate those available to humans. We don't know exactly how close this emulation needs to be, which means that our AGI systems and platforms need to support fairly flexible experimentation with virtual-world and/or robotic infrastructures.
6. To work toward adult human-level, roughly human-like general intelligence, one fairly easily comprehensible path is to use environments and goals reminiscent of human childhood, and seek to advance one's AGI system along a path roughly comparable to that followed by human children.
7. It is most effective to teach an AGI system aimed at roughly human-like general intelligence via a mix of spontaneous learning and explicit instruction, and to instruct it via a combination of imitation, reinforcement and correction, and a combination of linguistic and nonlinguistic instruction.
8. One effective approach to teaching an AGI system human language is to supply it with some in-built linguistic facility, in the form of rule-based and statistical-linguistics-based NLP systems, and then allow it to improve and revise this facility based on experience.
9. An AGI system with adequate mechanisms for handling the key types of knowledge mentioned above, and the capability to explicitly recognize large-scale patterns in itself, should, **upon sustained interaction with an appropriate environment in pursuit of appropriate goals**, emerge a variety of complex structures in its internal knowledge network, including, but not limited to:
    - a hierarchical network, representing both a spatiotemporal hierarchy and an approximate "default inheritance" hierarchy, cross-linked
    - a heterarchical network of associativity, roughly aligned with the hierarchical network
    - a self network which is an approximate micro image of the whole network

- inter-reflecting networks modeling self and others, reflecting a "mirrorhouse" design pattern

10. Given the strengths and weaknesses of current and near-future digital computers,
    a. A (loosely) neural-symbolic network is a good representation for directly storing many kinds of memory, and interfacing between those that it doesn't store directly;
    b. Uncertain logic is a good way to handle declarative knowledge. To deal with the problems facing a human-level AGI, an uncertain logic must integrate imprecise probability and fuzziness with a broad scope of logical constructs. PLN is one good realization.
    c. Programs are a good way to represent procedures (both cognitive and physical-action, but perhaps not including low-level motor-control procedures).
    d. Evolutionary program learning is a good way to handle difficult program learning problems. Probabilistic learning on normalized programs is one effective approach to evolutionary program learning. MOSES is one good realization of this approach.
    e. Multistart hill-climbing, with a strong Occam prior, is a good way to handle relatively straightforward program learning problems.
    f. Activation spreading and Hebbian learning comprise a reasonable way to handle attentional knowledge (though other approaches, with greater overhead cost, may provide better accuracy and may be appropriate in some situations).
        - Artificial economics is an effective approach to activation spreading and Hebbian learning in the context of neural-symbolic networks;
        - ECAN is one good realization of artificial economics;
        - A good trade-off between comprehensiveness and efficiency is to focus on two kinds of attention: processor attention (represented in CogPrime by ShortTermImportance) and memory attention (represented in CogPrime by LongTermImportance).
    g. Simulation is a good way to handle episodic knowledge (remembered and imagined). Running an internal world simulation engine is an effective way to handle simulation.
    h. Hybridization of one's integrative neural-symbolic system with a spatiotemporally hierarchical deep learning system is an effective way to handle representation and learning of low-level sensorimotor knowledge. DeSTIN is one example of a deep learning system of this nature that can be effective in this context.
    i. One effective way to handle goals is to represent them declaratively, and allocate attention among them economically. CogPrime's PLN/ECAN based framework for handling intentional knowledge is one good realization.

11. It is important for an intelligent system to have some way of recognizing large-scale patterns in itself, and then embodying these patterns as new, localized knowledge items in its memory. Given the use of a neural-symbolic network for knowledge representation, a graph-mining based "map formation" heuristic is one good way to do this.
12. Occam's Razor: Intelligence is closely tied to the creation of procedures that achieve goals in environments *in the simplest possible way.* Each of an AGI system's cognitive algorithms should embody a simplicity bias in some explicit or implicit form.
13. An AGI system, if supplied with a commonsensically ethical goal system and an intentional component based on rigorous uncertain inference, should be able to reliably achieve a much higher level of commonsensically ethical behavior than any human being.
14. Once sufficiently advanced, an AGI system with a logic-based declarative knowledge approach and a program-learning-based procedural knowledge approach should be able to

radically self-improve via a variety of methods, including supercompilation and automated theorem-proving.

# Section I
# Artificial and Natural General Intelligence

## Chapter 2

# What Is Human-Like General Intelligence?

## 2.1 Introduction

CogPrime, the AGI architecture on which the bulk of this book focuses, is aimed at the creation of artificial general intelligence that is vaguely human-like in nature, and possesses capabilities at the human level and ultimately beyond.

Obviously this description begs some foundational questions, such as, for starters: What is "general intelligence"? What is "human-like general intelligence"? What is "intelligence" at all?

Perhaps in the future there will exist a rigorous theory of general intelligence which applies usefully to real-world biological and digital intelligences. In later chapters we will give some ideas in this direction. But such a theory is currently nascent at best. So, given the present state of science, these two questions about intelligence must be handled via a combination of formal and informal methods. This brief, informal chapter attempts to explain our view on the nature of intelligence in sufficient detail to place the discussion of CogPrime in appropriate context, without trying to resolve all the subtleties.

Psychologists sometimes define human general intelligence using IQ tests and related instruments – so one might wonder: why not just go with that? But these sorts of intelligence testing approaches have difficulty even extending to humans from diverse cultures [HHPO12] [Fis01]. So it's clear that to ground AGI approaches that are not based on precise modeling of human cognition, one requires a more fundamental understanding of the nature of general intelligence. On the other hand, if one conceives intelligence too broadly and mathematically, there's a risk of leaving the real human world too far behind. In this chapter (followed up in Chapters 9 and 7 with more rigor), we present a highly abstract understanding of intelligence-in-general, and then portray human-like general intelligence as a (particularly relevant) special case.

### *2.1.1 What Is General Intelligence?*

Many attempts to characterize general intelligence have been made; Legg and Hutter [LH07a] review over 70! Our preferred abstract characterization of intelligence is: **the capability of a system to choose actions maximizing its goal-achievement, based on its perceptions and memories, and making reasonably efficient use of its computational resources**

[Goe10c]. A general intelligence is then understood as one that can do this for a variety of complex goals in a variety of complex environments.

However, apart from positing definitions, it is difficult to say anything nontrivial about general intelligence *in general*. Marcus Hutter [Hut05] has demonstrated, using a characterization of general intelligence similar to the one above, that a very simple algorithm called $\text{AIXI}^{tl}$ can demonstrate arbitrarily high levels of general intelligence, if given sufficiently immense computational resources. This is interesting because it shows that (if we assume the universe can effectively be modeled as a computational system) general intelligence is basically a problem of computational efficiency. The particular structures and dynamics that characterize real-world general intelligences like humans arise because of the need to achieve reasonable levels of intelligence using modest space and time resources.

The "patternist" theory of mind presented in [Goe06a] and briefly summarized in Chapter 3 below presents a number of *emergent structures and dynamics* that are hypothesized to characterize pragmatic general intelligence, including such things as system-wide hierarchical and heterarchical knowledge networks, and a dynamic and self-maintaining self-model. Much of the thinking underlying CogPrime has centered on how to make multiple learning components combine to give rise to these emergent structures and dynamics.

### *2.1.2 What Is Human-like General Intelligence?*

General principles like "complex goals in complex environments" and patternism are not sufficient to specify the nature of *human-like* general intelligence. Due to the harsh reality of computational resource restrictions, real-world general intelligences are necessarily biased to particular classes of environments. Human intelligence is biased toward the physical, social and linguistic environments in which humanity evolved, and if AI systems are to possess humanlike general intelligence they must to some extent share these biases.

But what are these biases, specifically? This is a large and complex question, which we seek to answer in a theoretically grounded way in Chapter 9. However, before turning to abstract theory, one may also approach the question in a pragmatic way, by looking at the categories of things that humans do to manifest their particular variety of general intelligence. This is the task of the following section.

## 2.2 Commonly Recognized Aspects of Human-like Intelligence

It would be nice if we could give some sort of "standard model of human intelligence" in this chapter, to set the context for our approach to artificial general intelligence – but the truth is that there isn't any. What the cognitive science field has produced so far is better described as: a broad set of principles and platitudes, plus a long, loosely-organized list of ideas and results. Chapter 5 below constitutes an attempt to present an integrative architecture diagram for human-like general intelligence, synthesizing the ideas of a number of different AGI and cognitive theorists. However, though the diagram given there attempts to be inclusive, it nonetheless contains many features that are accepted by only a plurality of the research community.

The following list of key aspects of human-like intelligence has a better claim at truly being generic and representing the consensus understanding of contemporary science. It was produced by a very simple method: starting with the Wikipedia page for cognitive psychology, and then adding a few items onto it based on scrutinizing the tables of contents of some top-ranked cognitive psychology textbooks. There is some redundancy among list items, and perhaps also some minor omissions (depending on how broadly one construes some of the items), but the point is to give a broad indication of human mental functions as standardly identified in the psychology field:

- Perception
  - General perception
  - Psychophysics
  - Pattern recognition (the ability to correctly interpret ambiguous sensory information)
  - Object and event recognition
  - Time sensation (awareness and estimation of the passage of time)
- Motor Control
  - Motor planning
  - Motor execution
  - Sensorimotor integration
- Categorization
  - Category induction and acquisition
  - Categorical judgement and classification
  - Category representation and structure
  - Similarity
- Memory
  - Aging and memory
  - Autobiographical memory
  - Constructive memory
  - Emotion and memory
  - False memories
  - Memory biases
  - Long-term memory
  - Episodic memory
  - Semantic memory
  - Procedural memory
  - Short-term memory
  - Sensory memory
  - Working memory
- Knowledge representation
  - Mental imagery
  - Propositional encoding
  - Imagery versus propositions as representational mechanisms

  - Dual-coding theories
  - Mental models

- Language

  - Grammar and linguistics
  - Phonetics and phonology
  - Language acquisition

- Thinking

  - Choice
  - Concept formation
  - Judgment and decision making
  - Logic, formal and natural reasoning
  - Problem solving
  - Planning
  - Numerical cognition
  - Creativity

- Consciousness

  - Attention and Filtering (the ability to focus mental effort on specific stimuli whilst excluding other stimuli from consideration)
  - Access consciousness
  - Phenomenal consciousness

- Social Intelligence

  - Distributed Cognition
  - Empathy

If there's nothing surprising to you in the above list, I'm not surprised! If you've read a bit in the modern cognitive science literature, the list may even seem trivial. But it's worth reflecting that 50 years ago, no such list could have been produced with the same level of broad acceptance. And less than 100 years ago, the Western world's scientific understanding of the mind was dominated by Freudian thinking; and not too long after that, by behaviorist thinking, which argued that theorizing about what went on inside the mind made no sense, and science should focus entirely on analyzing external behavior. The progress of cognitive science hasn't made as many headlines as contemporaneous progress in neuroscience or computing hardware and software, but it's certainly been dramatic. One of the reasons that AGI is more achievable now than in the 1950s and 60s when the AI field began, is that now we understand the structures and processes characterizing human thinking a lot better.

In spite of all the theoretical and empirical progress in the cognitive science field, however, there is still no consensus among experts on how the various aspects of intelligence in the above "human intelligence feature list" are achieved and interrelated. In these pages, however, for the purpose of motivating CogPrime, we assume a broad integrative understanding roughly as follows:

- **Perception**: There is significant evidence that human visual perception occurs using a spatiotemporal hierarchy of pattern recognition modules, in which higher-level modules deal with broader spacetime regions, roughly as in the DeSTIN AGI architecture discussed in Chapter 4. Further, there is evidence that each module carries out temporal predictive pattern recognition as well as static pattern recognition. Audition likely utilizes a similar hierarchy. Olfaction may use something more like a Hopfield attractor neural network, as described in Chapter 13. The networks corresponding to different sense modalities have multiple cross-linkages, more at the upper levels than the lower, and also link richly into the parts of the mind dealing with other functions.

- **Motor Control**: This appears to be handled by a spatiotemporal hierarchy as well, in which each level of the hierarchy corresponds to higher-level (in space and time) movements. The hierarchy is very tightly linked in with the perceptual hierarchies, allowing sensorimotor learning and coordination.
- **Memory**: There appear to be multiple distinct but tightly cross-linked memory systems, corresponding to different sorts of knowledge such as declarative (facts and beliefs), procedural, episodic, sensorimotor, attentional and intentional (goals).
- **Knowledge Representation**: There appear to be multiple base-level representational systems; at least one corresponding to each memory system, but perhaps more than that. Additionally there must be the capability to dynamically create new context-specific representational systems founded on the base representational system.
- **Language**: While there is surely some innate biasing in the human mind toward learning certain types of linguistic structure, it's also notable that language shares a great deal of structure with other aspects of intelligence like social roles [CB00] and the physical world [Cas07]. Language appears to be learned based on biases toward learning certain types of relational role systems; and language processing seems a complex mix of generic reasoning and pattern recognition processes with specialized acoustic and syntactic processing routines.
- **Consciousness** is pragmatically well-understood using Baars' "global workspace" theory, in which a small subset of the mind's content is summoned at each time into a "working memory" aka "workspace" aka "attentional focus" where it is heavily processed and used to guide action selection.
- **Thinking** is a diverse combination of processes encompassing things like categorization, (crisp and uncertain) reasoning, concept creation, pattern recognition, and others; these processes must work well with all the different types of memory and must effectively integrate knowledge in the global workspace with knowledge in long-term memory.
- **Social Intelligence** seems closely tied with language and also with self-modeling; we model ourselves in large part using the same specialized biases we use to help us model others.

None of the points in the above bullet list is particularly controversial, but neither are any of them universally agreed-upon by experts. However, in order to make any progress on AGI design one must make some commitments to particular cognition-theoretic understandings, at this level and ultimately at more precise levels as well. Further, general philosophical analyses like the patternist philosophy to be reviewed in the following chapter only provide limited guidance here. Patternism provides a filter for theories about specific cognitive functions – it rules out assemblages of cognitive-function-specific theories that don't fit together to yield a mind that could act effectively as a pattern-recognizing, goal-achieving system with the right internal emergent structures. But it's not a precise enough filter to serve as a sole guide for cognitive theory even at the high level.

The above list of points leads naturally into the integrative architecture diagram presented in Chapter 5. But that generic architecture diagram is fairly involved, and before presenting it, we will go through some more background regarding human-like intelligence (in the rest of this chapter), philosophy of mind (in Chapter 3) and contemporary AGI architectures (in Chapter4).

## 2.3 Further Characterizations of Humanlike Intelligence

We now present a few complementary approaches to characterizing the key aspects of human-like intelligence, drawn from different perspectives in the psychology and AI literature. These different approaches all overlap substantially, which is good, yet each gives a slightly different slant.

### *2.3.1 Competencies Characterizing Human-like Intelligence*

First we give a list of key competencies characterizing human level intelligence resulting from the the AGI Roadmap Workshop held at the University of Knoxville in October 2008 [1], which was organized by Ben Goertzel and Itamar Arel. In this list, each broad competency area is listed together with a number of specific competencies sub-areas within its scope:

1. **Perception**: vision, hearing, touch, proprioception, crossmodal
2. **Actuation**: physical skills, navigation, tool use
3. **Memory**: episodic, declarative, behavioral
4. **Learning**: imitation, reinforcement, interactive verbal instruction, written media, experimentation
5. **Reasoning**: deductive, abductive, inductive, causal, physical, associational, categorization
6. **Planning**: strategic, tactical, physical, social
7. **Attention**: visual, social, behavioral
8. **Motivation**: subgoal creation, affect-based motivation, control of emotions
9. **Emotion**: expressing emotion, understanding emotion
10. **Self**: self-awareness, self-control, other-awareness
11. **Social**: empathy, appropriate social behavior, social communication, social inference, group play, theory of mind
12. **Communication**: gestural, pictorial, verbal, language acquisition, cross-modal
13. **Quantitative**: counting, grounded arithmetic, comparison, measurement
14. **Building/Creation**: concept formation, verbal invention, physical construction, social group formation

Clearly this list is getting at the same things as the textbook headings given in Section 2.2, but with a different emphasis due to its origin among AGI researchers rather than cognitive psychologists. As part of the AGI Roadmap project, specific tasks were created corresponding to each of the sub-areas in the above list; we will describe some of these tasks in Chapter 17.

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[1] See `http://www.ece.utk.edu/~itamar/AGI_Roadmap.html`; participants included: Sam Adams, IBM Research; Ben Goertzel, Novamente LLC; Itamar Arel, University of Tennessee; Joscha Bach, Institute of Cognitive Science, University of Osnabruck, Germany; Robert Coop, University of Tennessee; Rod Furlan, Singularity Institute; Matthias Scheutz, Indiana University; J. Storrs Hall, Foresight Institute; Alexei Samsonovich, George Mason University; Matt Schlesinger, Southern Illinois University; John Sowa, Vivomind Intelligence, Inc.; Stuart C. Shapiro, University at Buffalo

### *2.3.2 Gardner's Theory of Multiple Intelligences*

The diverse list of human-level "competencies" given above is reminiscent of Gardner's [Gar99] multiple intelligences (MI) framework – a psychological approach to intelligence assessment based on the idea that different people have mental strengths in different high-level domains, so that intelligence tests should contain aspects that focus on each of these domains separately. MI does not contradict the "complex goals in complex environments" view of intelligence, but rather may be interpreted as making specific commitments regarding which complex tasks and which complex environments are most important for roughly human-like intelligence.

MI does not seek an extreme generality, in the sense that it explicitly focuses on domains in which humans have strong innate capability as well as general-intelligence capability; there could easily be non-human intelligences that would exceed humans according to both the commonsense human notion of "general intelligence" and the generic "complex goals in complex environments" or Hutter/Legg-style definitions, yet would not equal humans on the MI criteria. This strong anthropocentrism of MI is not a problem from an AGI perspective so long as one uses MI in an appropriate way, i.e. only for assessing the extent to which an AGI system displays specifically *human-like* general intelligence. This restrictiveness is the price one pays for having an easily articulable and relatively easily implementable evaluation framework.

Table **??** summarizes the types of intelligence included in Gardner's MI theory.

| **Intelligence Type** | **Aspects** |
|---|---|
| **Linguistic** | Words and language, written and spoken; retention, interpretation and explanation of ideas and information via language; understands relationship between communication and meaning |
| **Logical-Mathematical** | Logical thinking, detecting patterns, scientific reasoning and deduction; analyse problems, perform mathematical calculations, understands relationship between cause and effect towards a tangible outcome |
| **Musical** | Musical ability, awareness, appreciation and use of sound; recognition of tonal and rhythmic patterns, understands relationship between sound and feeling |
| **Bodily-Kinesthetic** | Body movement control, manual dexterity, physical agility and balance; eye and body coordination |
| **Spatial-Visual** | Visual and spatial perception; interpretation and creation of images; pictorial imagination and expression; understands relationship between images and meanings, and between space and effect |
| **Interpersonal** | Perception of other people's feelings; relates to others; interpretation of behaviour and communications; understands relationships between people and their situations |

Table 2.1: Types of Intelligence in Gardner's Multiple Intelligence Theory

### *2.3.3 Newell's Criteria for a Human Cognitive Architecture*

Finally, another related perspective is given by Alan Newell's "functional criteria for a human cognitive architecture" [New90], which require that a humanlike AGI system should:

1. Behave as an (almost) arbitrary function of the environment
2. Operate in real time
3. Exhibit rational, i.e., effective adaptive behavior
4. Use vast amounts of knowledge about the environment
5. Behave robustly in the face of error, the unexpected, and the unknown
6. Integrate diverse knowledge
7. Use (natural) language
8. Exhibit self-awareness and a sense of self
9. Learn from its environment
10. Acquire capabilities through development
11. Arise through evolution
12. Be realizable within the brain

In our view, Newell's criterion 1 is poorly-formulated, for while universal Turing computing power is easy to come by, any finite AI system must inevitably be heavily adapted to some particular class of environments for straightforward mathematical reasons [Hut05, GPI$^{+}$10]. On the other hand, his criteria 11 and 12 are not relevant to the CogPrime approach as we are not doing biological modeling but rather AGI engineering. However, Newell's criteria 2-10 are essential in our view, and all will be covered in the following chapters.

### *2.3.4 intelligence and Creativity*

Creativity is a key aspect of intelligence. While sometimes associated especially with genius-level intelligence in science or the arts, actually creativity is pervasive throughout intelligence, at all levels. When a child makes a flying toy car by pasting paper bird wings on his toy car, and when a bird figures out how to use a curved stick to get a piece of food out of a difficult corner – this is creativity, just as much as the invention of a new physics theory or the design of a new fashion line. The very nature of intelligence – achieving complex goals in complex environments – requires creativity for its achievement, because the nature of complex environments and goals is that they are always unveiling new aspects, so that dealing with them involves inventing things beyond what worked for previously known aspects.

CogPrime contains a number of cognitive dynamics that are especially effective at creating new ideas, such as: concept creation (which synthesizes new concepts via combining aspects of previous ones), probabilistic evolutionary learning (which simulates evolution by natural selection, creating new procedures via mutation, combination and probabilistic modeling based on previous ones), and analogical inference (an aspect of the Probabilistic Logic Networks subsystems). But ultimately creativity is about how a system combines all the processes at its disposal to synthesize novel solutions to the problems posed by its goals in its environment.

There are times, of course, when the same goal can be achieved in multiple ways – some more creative than others. In CogPrime this relates to the existence of multiple top-level goals, one of which may be **novelty**. A system with novelty as one of its goals, alongside other more specific goals, will have a tendency to solve other problems in creative ways, thus fulfilling its novelty goal along with its other goals. This can be seen at the level of childlike behaviors, and also at a much more advanced level. Salvador Dali wanted to depict his thoughts and feelings, but he also wanted to do so in a striking and unusual way; this combination of aspirations spurred him to produce his amazing art. A child who is asked to draw a house, but has a goal of novelty, may draw a tower with a swimming pool on the roof rather than a typical Colonial structure. A physical motivated by novelty will seek a non-obvious solution to the equation at hand, rather than just applying tried and true methods, and perhaps discover some new phenomenon. Novelty can be measured formally in terms of information-theoretic surprisingness based upon a given basis of knowledge and experience [Sch06]; something that is novel and creative to a child may be familiar to the adult world, and a solution that seems novel and creative to a brilliant scientist today, may seem like cliche' elementary school level work 100 years from now.

Measuring creativity is even more difficult and subjective than measuring intelligence. Qualitatively, however, we humans can recognize it; and we suspect that the qualitative emergence of dramatic, multidisciplinary computational creativity will be one of the things that makes the human population feel emotionally that advanced AGI has finally arrived.

## 2.4 Preschool as a View into Human-like General Intelligence

One issue that arises when pursuing the grand goal of human-level general intelligence is how to measure partial progress. The classic Turing Test of imitating human conversation remains too difficult to usefully motivate immediate-term AI research (see [HF95] [Fre90] for arguments that it has been counterproductive for the AI field). The same holds true for comparable alternatives like the Robot College Test of creating a robot that can attend a semester of university and obtain passing grades. However, some researchers have suggested intermediary goals, that constitute partial progress toward the grand goal and yet are qualitatively different from the highly specialized problems to which most current AI systems are applied.

In this vein, Sam Adams and his team at IBM have outlined a so-called "Toddler Turing Test," in which one seeks to use AI to control a robot qualitatively displaying similar cognitive behaviors to a young human child (say, a 3 year old) [AABL02]. In fact this sort of idea has a long and venerable history in the AI field – Alan Turing's original 1950 paper on AI [Tur50], where he proposed the Turing Test, contains the suggestion that

> *"Instead of trying to produce a programme to simulate the adult mind, why not rather try to produce one which simulates the child's?"*

We find this childlike cognition based approach promising for many reasons, including its integrative nature: what a young child does involves a combination of perception, actuation, linguistic and pictorial communication, social interaction, conceptual problem solving and creative imagination. Specifically, inspired by these ideas, in Chapter 16 we will suggest the approach of teaching and testing early-stage AGI systems in environments that emulate the preschools used for teaching human children.

Human intelligence evolved in response to the demands of richly interactive environments, and a preschool is specifically designed to be a richly interactive environment with the capability to stimulate diverse mental growth. So, we are currently exploring the use of CogPrime to control virtual agents in preschool-like virtual world environments, as well as commercial humanoid robot platforms such as the Nao (see Figure 2.1) or Robokind (2.2) in physical preschool-like robot labs.

Another advantage of focusing on childlike cognition is that child psychologists have created a variety of instruments for measuring child intelligence. In Chapter 17, we will discuss an approach to evaluating the general intelligence of human childlike AGI systems via combining tests typically used to measure the intelligence of young human children, with additional tests crafted based on cognitive science and the standard preschool curriculum.

To put it differently: While our long-term goal is the creation of genius machines with general intelligence at the human level and beyond, we believe that every young child has a certain genius; and by beginning with this childlike genius, we can built a platform capable of developing into a genius machine with far more dramatic capabilities.

### *2.4.1 Design for an AGI Preschool*

More precisely, we don't suggest to place a CogPrime system in an environment that is an exact imitation of a human preschool – this would be inappropriate since current robotic or virtual bodies are very differently abled than the body of a young human child. But we aim to place CogPrime in an environment emulating the basic diversity and educational character of a typical human preschool. We stress this now, at this early point in the book, because we will use running examples throughout the book drawn from the preschool context.

The key notion in modern preschool design is the "learning center," an area designed and outfitted with appropriate materials for teaching a specific skill. Learning centers are designed to encourage learning by doing, which greatly facilitates learning processes based on reinforcement, imitation and correction; and also to provide multiple techniques for teaching the same skills, to accommodate different learning styles and prevent overfitting and overspecialization in the learning of new skills.

Centers are also designed to cross-develop related skills. A "manipulatives center," for example, provides physical objects such as drawing implements, toys and puzzles, to facilitate development of motor manipulation, visual discrimination, and (through sequencing and classification games) basic logical reasoning. A "dramatics center" cross-trains interpersonal and empathetic skills along with bodily-kinesthetic, linguistic, and musical skills. Other centers, such as art, reading, writing, science and math centers are also designed to train not just one area, but to center around a primary intelligence type while also cross-developing related areas. For specific examples of the learning centers associated with particular contemporary preschools, see [Nei98]. In many progressive, student-centered preschools, students are left largely to their own devices to move from one center to another throughout the preschool room. Generally, each center will be staffed by an instructor at some points in the day but not others, providing a variety of learning experiences.

To imitate the general character of a human preschool, we will create several centers in our robot lab. The precise architecture will be adapted via experience but initial centers will likely be:

- **a blocks center**: a table with blocks on it
- **a language center**: a circle of chairs, intended for people to sit around and talk with the robot

- **a manipulatives center**, with a variety of different objects of different shapes and sizes, intended to teach visual and motor skills
- **a ball play center**: where balls are kept in chests and there is space for the robot to kick the balls around
- **a dramatics center** where the robot can observe and enact various movements

One Running Example

As we proceed through the various component structures and dynamics of CogPrime in the following chapters, it will be useful to have a few running examples to use to explain how the various parts of the system are supposed to work. One example we will use fairly frequently is drawn from the preschool context: the somewhat open-ended task of **Build me something out of blocks, that you haven't built for me before, and then tell me what it is**. This is a relatively simple task that combines multiple aspects of cognition in a richly interconnected way, and is the sort of thing that young children will naturally do in a preschool setting.

## 2.5 Integrative and Synergetic Approaches to Artificial General Intelligence

In Chapter 1 we characterized CogPrime as an integrative approach. And we suggest that the naturalness of integrative approaches to AGI follows directly from comparing above lists of capabilities and criteria to the array of available AI technologies. No single known algorithm or data structure appears easily capable of carrying out all these functions, so if one wants to proceed *now* with creating a general intelligence that is even vaguely humanlike, one must integrate various AI technologies within some sort of unifying architecture.

For this reason and others, an increasing amount of work in the AI community these days is integrative in one sense or another. Estimation of Distribution Algorithms integrate probabilistic reasoning with evolutionary learning [Pel05]. Markov Logic Networks [RD06] integrate formal logic and probabilistic inference, as does the Probabilistic Logic Networks framework [GIGH08] utilized in CogPrime and explained further in the book, and other works in the "Progic" area such as [WW06]. Leslie Pack Kaelbling has synthesized low-level robotics methods (particle filtering) with logical inference [ZPK07]. Dozens of further examples could be given. The construction of practical robotic systems like the Stanley system that won the DARPA Grand Challenge [Tea06] involve the integration of numerous components based on different principles. These algorithmic and pragmatic innovations provide ample raw materials for the construction of integrative cognitive architectures and are part of the reason why childlike AGI is more approachable now than it was 50 or even 10 years ago.

Further, many of the *cognitive architectures* described in the current AI literature are "integrative" in the sense of combining multiple, qualitatively different, interoperating algorithms. Chapter 4 gives a high-level overview of existing cognitive architectures, dividing them into *symbolic*, *emergentist* (e.g. neural network) and *hybrid* architectures. The hybrid architectures generally integrate symbolic and neural components, often with multiple subcomponents within each of these broad categories. However, we believe that even these excellent architectures are not integrative enough, in the sense that they lack sufficiently rich and nuanced interactions between the learning components associated with different kinds of memory, and hence are unlikely to give rise to the emergent structures and dynamics characterizing general intelligence. One of the central ideas underlying CogPrime is that with an integrative cognitive architecture that combines multiple aspects of intelligence, achieved by diverse structures and algorithms, within a common framework designed specifically to support robust **synergetic interactions** between these aspects.

The simplest way to create an integrative AI architecture is to loosely couple multiple components carrying out various functions, in such a way that the different components pass inputs and outputs amongst each other but do not interfere with or modulate each others' internal functioning in real-time. However, the human brain appears to be integrative in a much tighter sense, involving rich real-time dynamical coupling between various components with distinct but related functions. In [Goe09a] we have hypothesized that the brain displays a property of **cognitive synergy**, according to which multiple learning processes can not only **dispatch subproblems** to each other, but also **share contextual understanding in real-time**, so that each one can get help from the others in a contextually savvy way. By imbuing AI architectures with cognitive synergy, we hypothesize, one can get past the bottlenecks that have plagued AI in the past. Part of the reasoning here, as elaborated in Chapter 9 and [Goe09b], is that real physical and social environments display a rich dynamic interconnection between their various aspects, so that richly dynamically interconnected integrative AI architectures will be able to achieve goals within them more effectively.

And this brings us to the patternist perspective on intelligent systems, alluded to above and fleshed out further in Chapter 3 with its focus on the emergence of hierarchically and heterarchically structured networks of patterns, and pattern-systems modeling self and others. Ultimately the purpose of cognitive synergy in an AGI system is to enable the various AI algorithms and structures composing the system to work together effectively enough to give rise to the right *system-wide emergent structures* characterizing real-world general intelligence. The underlying theory is that intelligence is not reliant on any particular structure or algorithm, but *is* reliant on the emergence of appropriately structured networks of patterns, which can then be used to guide ongoing dynamics of pattern recognition and creation. And the underlying hypothesis is that the emergence of these structures cannot be achieved by a loosely interconnected assemblage of components, no matter how sensible the architecture; it requires a tightly connected, synergetic system.

It is possible to make these theoretical ideas about cognition mathematically rigorous; for instance, Appendix **??** briefly presents a formal definition of cognitive synergy that has been analyzed as part of an effort to prove theorems about the importance of cognitive synergy for giving rise to emergent system properties associated with general intelligence. However, while we have found such formal analyses valuable for clarifying our designs and understanding their qualitative properties, we have concluded that, for the present, the best way to explore our hypotheses about cognitive synergy and human-like general intelligence is empirically – via building and testing systems like CogPrime.

### *2.5.1 Achieving Humanlike Intelligence via Cognitive Synergy*

Summing up: at the broadest level, there are four primary challenges in constructing an integrative, cognitive synergy based approach to AGI:

1. choosing an **overall cognitive architecture** that possesses adequate richness and flexibility for the task of achieving childlike cognition.
2. Choosing **appropriate AI algorithms and data structures** to fulfill each of the functions identified in the cognitive architecture (e.g. visual perception, audition, episodic memory, language generation, analogy,...)
3. Ensuring that these algorithms and structures, within the chosen cognitive architecture, are able to cooperate in such a way as to provide appropriate **coordinated, synergetic intelligent behavior** (a critical aspect since childlike cognition is an integrated functional response to the world, rather than a loosely coupled collection of capabilities.)
4. Embedding one's system in an environment that provides **sufficiently rich stimuli and interactions** to enable the system to use this cooperation to ongoingly, creatively develop an intelligent internal world-model and self-model.

We argue that CogPrime
provides a viable way to address these challenges.

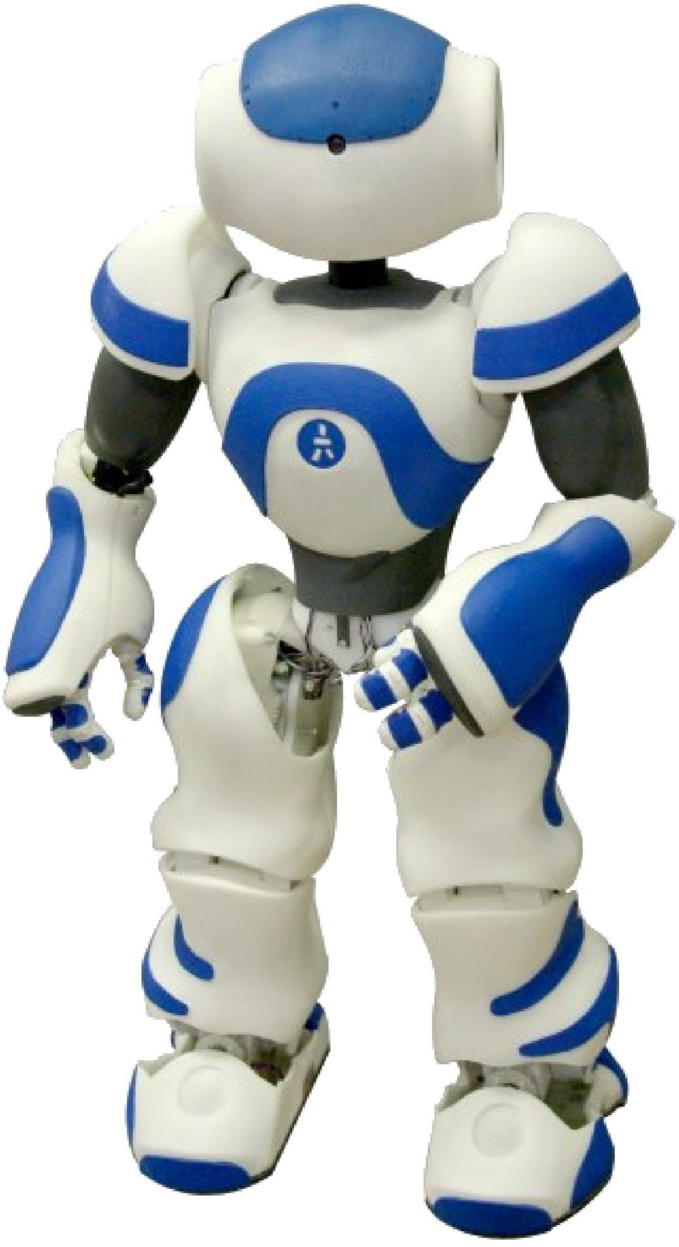

Fig. 2.1: The Nao humanoid robot

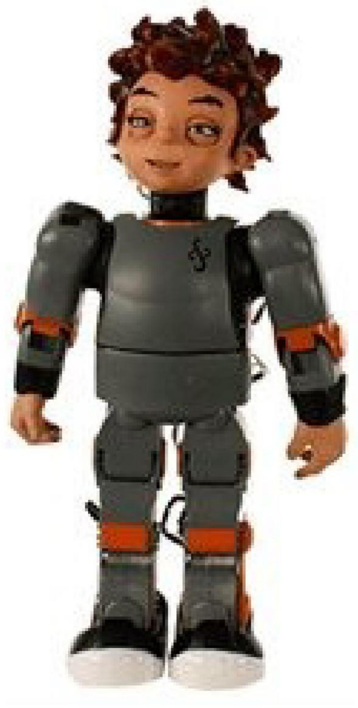

Fig. 2.2: The Nao humanoid robot

# Chapter 3
# A Patternist Philosophy of Mind

## 3.1 Introduction

In the last chapter we discussed human intelligence from a fairly down-to-earth perspective, looking at the particular intelligent functions that human beings carry out in their everyday lives. And we strongly feel this practical perspective is important: Without this concreteness, it's too easy for AGI research to get distracted by appealing (or frightening) abstractions of various sorts. However, it's **also** important to look at the nature of mind and intelligence from a more general and conceptual perspective, to avoid falling into an approach that follows the particulars of human capability but ignores the deeper structures and dynamics of mind that ultimately allow human minds to be so capable. In this chapter we very briefly review some ideas from the **patternist philosophy of mind**, a general conceptual framework on intelligence which has been inspirational for many key aspects of the CogPrime design, and which has been ongoingly developed by one of the authors (Ben Goertzel) during the last two decades (in a series of publications beginning in 1991, most recently *The Hidden Pattern* [Goe06a]). Some of the ideas described are quite broad and conceptual, and are related to CogPrime only via serving as general inspirations; others are more concrete and technical, and are actually utilized within the design itself.

CogPrime is an integrative design formed via the combination of a number of different philosophical, scientific and engineering ideas. The success or failure of the design doesn't depend on any particular philosophical understanding of intelligence. In that sense, the more abstract notions presented in this chapter should be considered "optional" rather than critical in a CogPrime context. However, due to the core role patternism has played in the development of CogPrime, understanding a few things about general patternist philosophy will be helpful for understanding CogPrime, even for those readers who are not philosophically inclined. Those readers who *are* philosophically inclined, on the other hand, are urged to read *The Hidden Pattern* and then interpret the particulars of CogPrime in this light.

## 3.2 Some Patternist Principles

The patternist philosophy of mind is a general approach to thinking about intelligent systems. It is based on the very simple premise that mind is made of pattern – and that a mind is a system for recognizing patterns in itself and the world, critically including patterns regarding which procedures are likely to lead to the achievement of which goals in which contexts.

Pattern as the basis of mind is not in itself is a very novel idea; this concept is present, for instance, in the 19th-century philosophy of Charles Peirce [Pei34], in the writings of contemporary philosophers Daniel Dennett [Den91] and Douglas Hofstadter [Hof79, Hof96], in Benjamin Whorf's [Who64] linguistic philosophy and Gregory Bateson's [Bat79] systems theory of mind and nature. Bateson spoke of the Metapattern: "that it is pattern which connects." In Goertzel's writings on philosophy of mind, an effort has been made to pursue this theme more thoroughly than has been done before, and to articulate in detail how various aspects of human mind and mind in general can be well-understood by explicitly adopting a patternist perspective. [1]

In the patternist perspective, "pattern" is generally defined as "representation as something simpler." Thus, for example, if one measures simplicity in terms of bit-count, then a program compressing an image would be a pattern in that image. But if one uses a simplicity measure incorporating run-time as well as bit-count, then the compressed version may or may not be a pattern in the image, depending on how one's simplicity measure weights the two factors. This definition encompasses simple repeated patterns, but also much more complex ones. While pattern theory has typically been elaborated in the context of computational theory, it is not intrinsically tied to computation; rather, it can be developed in any context where there is a notion of "representation" or "production" and a way of measuring simplicity. One just needs to be able to assess the extent to which $f$ represents or produces $X$, and then to compare the simplicity of $f$ and $X$; and then one can assess whether $f$ is a pattern in $X$. A formalization of this notion of pattern is given in [Goe06a] and briefly summarized at the end of this chapter.

Next, in patternism the mind of an intelligent system is conceived as the (fuzzy) set of patterns in that system, and the set of patterns emergent between that system and other systems with which it interacts. The latter clause means that the patternist perspective is inclusive of notions of distributed intelligence [Hut96]. Basically, the mind of a system is the fuzzy set of different simplifying representations of that system that may be adopted.

Intelligence is conceived, similarly to in Marcus Hutter's [Hut05] recent work (and as elaborated informally in Chapter 2 above, and formally in Chapter 7 below), as the ability to achieve complex goals in complex environments; where complexity itself may be defined as the possession of a rich variety of patterns. A mind is thus a collection of patterns that is associated with a persistent dynamical process that achieves highly-patterned goals in highly-patterned environments.

An additional hypothesis made within the patternist philosophy of mind is that reflection is critical to intelligence. This lets us conceive an intelligent system as a dynamical system that recognizes patterns in its environment and itself, as part of its quest to achieve complex goals.

While this approach is quite general, it is not vacuous; it gives a particular structure to the tasks of analyzing and synthesizing intelligent systems. About any would-be intelligent system, we are led to ask questions such as:

- How are patterns represented in the system? That is, how does the underlying infrastructure of the system give rise to the displaying of a particular pattern in the system's behavior?
- What kinds of patterns are most compactly represented within the system?
- What kinds of patterns are most simply learned?

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[1] In some prior writings the term "psynet model of mind" has been used to refer to the application of patternist philosophy to cognitive theory, but this term has been "deprecated" in recent publications as it seemed to introduce more confusion than clarification.

- What learning processes are utilized for recognizing patterns?
- What mechanisms are used to give the system the ability to introspect (so that it can recognize patterns in itself)?

Now, these same sorts of questions could be asked if one substituted the word "pattern" with other words like "knowledge" or "information". However, we have found that asking these questions in the context of pattern leads to more productive answers, avoiding unproductive byways and also tying in very nicely with the details of various existing formalisms and algorithms for knowledge representation and learning.

Among the many kinds of patterns in intelligent systems, *semiotic* patterns are particularly interesting ones. Peirce decomposed these into three categories:

- **iconic** patterns, which are patterns of contextually important internal similarity between two entities (e.g. an iconic pattern binds a picture of a person to that person)
- **indexical** patterns, which are patterns of spatiotemporal co-occurrence (e.g. an indexical pattern binds a wedding dress and a wedding)
- **symbolic** patterns, which are patterns indicating that two entities are often involved in the same relationships (e.g. a symbolic pattern between the number "5" (the symbol) and various sets of 5 objects (the entities that the symbol is taken to represent))

Of course, some patterns may span more than one of these semiotic categories; and there are also some patterns that don't fall neatly into any of these categories. But the semiotic patterns are particularly important ones; and symbolic patterns have played an especially large role in the history of AI, because of the radically different approaches different researchers have taken to handling them in their AI systems. Mathematical logic and related formalisms provide sophisticated mechanisms for combining and relating symbolic patterns ("symbols"), and some AI approaches have focused heavily on these, sometimes more so than on the identification of symbolic patterns in experience or the use of them to achieve practical goals. We will look fairly carefully at these differences in Chapter 4.

Pursuing the patternist philosophy in detail leads to a variety of particular hypotheses and conclusions about the nature of mind. Following from the view of intelligence in terms of achieving complex goals in complex environments, comes a view in which the dynamics of a cognitive system are understood to be governed by two main forces:

- self-organization, via which system dynamics cause existing system patterns to give rise to new ones
- goal-oriented behavior, which will be defined more rigorously in Chapter 7, but basically amounts to a system interacting with its environment in a way that appears like an attempt to maximize some reasonably simple function

Self-organized and goal-oriented behavior must be understood as cooperative aspects. If an agent is asked to build a surprising structure out of blocks and does so, this is goal-oriented. But the agent's ability to carry out this goal-oriented task will be greater if it has previously played around with blocks a lot in an unstructured, spontaneous way. And the "nudge toward creativity" given to it by asking it to build a surprising blocks structure may cause it to explore some novel patterns, which then feed into its future unstructured blocks play.

Based on these concepts, as argued in detail in [Goe06a], several primary dynamical principles may be posited, including:

- **Evolution** , conceived as a general process via which patterns within a large population thereof are differentially selected and used as the basis for formation of new patterns, based on some "fitness function" that is generally tied to the goals of the agent
  - *Example:* If trying to build a blocks structure that will surprise Bob, an agent may simulate several procedures for building blocks structures in its "mind's eye", assessing for each one the expected degree to which it might surprise Bob. The search through procedure space could be conducted as a form of evolution, via an algorithm such as MOSES.
- **Autopoiesis**: the process by which a system of interrelated patterns maintains its integrity, via a dynamic in which whenever one of the patterns in the system begins to decrease in intensity, some of the other patterns increase their intensity in a manner that causes the troubled pattern to increase in intensity again
  - *Example:* An agent's set of strategies for building the base of a tower, and its set of strategies for building the middle part of a tower, are likely to relate autopoietically. If the system partially forgets how to build the base of a tower, then it may regenerate this missing knowledge via using its knowledge about how to build the middle part (i.e., it knows it needs to build the base in a way that will support good middle parts). Similarly if it partially forgets how to build the middle part, then it may regenerate this missing knowledge via using its knowledge about how to build the base (i.e. it knows a good middle part should fit in well with the sorts of base it knows are good).
  - This same sort of interdependence occurs between pattern-sets containing more than two elements
  - Sometimes (as in the above example) autopoietic interdependence in the mind is tied to interdependencies in the physical world, sometimes not.
- **Association**. Patterns, when given attention, spread some of this attention to other patterns that they have previously been associated with in some way. Furthermore, there is Peirce's law of mind [Pei34], which could be paraphrased in modern terms as stating that the mind is an associative memory network, whose dynamics dictate that every idea in the memory is an active agent, continually acting on those ideas with which the memory associates it.
  - *Example:* Building a blocks structure that resembles a tower, spreads attention to memories of prior towers the agents has seen, and also to memories of people the agent knows have seen towers, and structures it has built at the same time as towers, structures that resemble towers in various respects, etc.
- **Differential attention allocation / credit assignment**. Patterns that have been valuable for goal-achievement are given more attention, and are encouraged to participate in giving rise to new patterns.
  - *Example:* Perhaps in a prior instance of the task "build me a surprising structure out of blocks," searching through memory for non-blocks structures that the agent has played with has proved a useful cognitive strategy. In that case, when the task is posed to the agent again, it should tend to allocate disproportionate resources to this strategy.
- **Pattern creation**. Patterns that have been valuable for goal-achievement are mutated and combined with each other to yield new patterns.

  - *Example:* Building towers has been useful in a certain context, but so has building structures with a large number of triangles. Why not build a tower out of triangles? Or maybe a vaguely tower-like structure that uses more triangles than a tower easily could?
  - *Example:* Building an elongated block structure resembling a table was successful in the past, as was building a structure resembling a very flat version of a chair. Generalizing, maybe building distorted versions of furniture is good. Or maybe it is building distorted version of *any* previously perceived objects that is good. Or maybe both, to different degrees....

Next, for a variety of reasons outlined in [Goe06a] it becomes appealing to hypothesize that the network of patterns in an intelligent system must give rise to the following large-scale emergent structures

- Hierarchical network. Patterns are habitually in relations of control over other patterns that represent more specialized aspects of themselves.
  - *Example:* The pattern associated with "tall building" has some control over the pattern associated with "tower", as the former represents a more general concept ... and "tower" has some control over "Eiffel tower", etc.
- Heterarchical network. The system retains a memory of which patterns have previously been associated with each other in any way.
  - *Example:* "Tower" and "snake" are distant in the natural pattern hierarchy, but may be associatively/heterarchically linked due to having a common elongated structure. This heterarchical linkage may be used for many things, e.g. it might inspire the creative construction of a tower with a snake's head.
- Dual network. Hierarchical and heterarchical structures are combined, with the dynamics of the two structures working together harmoniously. Among many possible ways to hierarchically organize a set of patterns, the one used should be one that causes hierarchically nearby patterns to have many meaningful heterarchical connections; and of course, there should be a tendency to search for heterarchical connections among hierarchically nearby patterns.
  - *Example:* While the set of patterns hierarchically nearby "tower" and the set of patterns heterarchically nearby "tower" will be quite different, they should still have more overlap than random pattern-sets of similar sizes. So, if looking for something else heterarchically near "tower", using the hierarchical information about "tower" should be of some use, and vice versa.
  - In PLN, hierarchical relationships correspond to Atoms $A$ and $B$ so that $InheritanceAB$ and $InheritanceBA$ have highly dissimilar strength; and heterarchical relationships correspond to IntensionalSimilarity relationships. The dual network structure then arises when intensional and extensional inheritance approximately correlate with each other, so that inference about either kind of inheritance assists with figuring out about the other kind.
- Self structure. A portion of the network of patterns forms into an approximate image of the overall network of patterns.

  - *Example:* Each time the agent builds a certain structure, it observes itself building the structure, and its role as "builder of a tall tower" (or whatever the structure is) becomes part of its self-model. Then when it is asked to build something new, it may consult its self-model to see if it believes itself capable of building that sort of thing (for instance, if it is asked to build something very large, its self-model may tell it that it lacks persistence for such projects, so it may reply "I can try, but I may wind up not finishing it").

As we proceed through the CogPrime design in the following pages, we will see how each of these abstract concepts arises concretely from CogPrime's structures and algorithms. If the theory of [Goe06a] is correct, then the success of CogPrime as a design will depend largely on whether these high-level structures and dynamics can be made to emerge from the synergetic interaction of CogPrime's representation and algorithms, when they are utilized to control an appropriate agent in an appropriate environment.

## 3.3 Cognitive Synergy

Now we dig a little deeper and present a different sort of "general principle of feasible general intelligence", already hinted in earlier chapters: the *cognitive synergy* principle [2], which is both a conceptual hypothesis about the structure of generally intelligent systems in certain classes of environments, and a design principle used to guide the design of CogPrime. Chapter 8 presents a mathematical formalization of the notion of cognitive synergy; here we present the conceptual idea informally, which makes it more easily digestible but also more vague-sounding.

We will focus here on cognitive synergy specifically in the case of "multi-memory systems," which we define as intelligent systems whose combination of environment, embodiment and motivational system make it important for them to possess memories that divide into partially but not wholly distinct components corresponding to the categories of:

- Declarative memory
  - *Examples of declarative knowledge:* Towers on average are taller than buildings. I generally am better at building structures I imagine, than at imitating structures I'm shown in pictures.
- Procedural memory (memory about how to do certain things)
  - *Examples of procedural knowledge:* Practical know-how regarding how to pick up an elongated rectangular block, or a square one. Know-how regarding when to approach a problem by asking "What would one of my teachers do in this situation" versus by thinking through the problem from first principles.
- Sensory and episodic memory
  - *Example of sensory knowledge:* memory of Bob's face; memory of what a specific tall blocks tower looked like

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[2] While these points are implicit in the theory of mind given in [Goe06a], they are not articulated in this specific form there. So the material presented in this section is a new development within patternist philosophy, developed since [Goe06a] in a series of conference papers such as [Goe09a].

  - *Example of episodic knowledge:* memory of the situation in which the agent first met Bob; memory of a situation in which a specific tall blocks tower was built

- Attentional memory (knowledge about what to pay attention to in what contexts)
  - *Example of attentional knowledge:* When involved with a new person, it's useful to pay attention to whatever that person looks at

- Intentional memory (knowledge about the system's own goals and subgoals)
  - *Example of intentional knowledge:* If my goal is to please some person whom I don't know that well, then a subgoal may be figuring out what makes that person smile.

In Chapter 9 below we present a detailed argument as to how the requirement for a multi-memory underpinning for general intelligence emerges from certain underlying assumptions regarding the measurement of the simplicity of goals and environments. Specifically we argue that each of these memory types corresponds to certain *modes of communication*, so that intelligent agents which have to efficiently handle a sufficient variety of types of communication with other agents, are going to have to handle all these types of memory. These types of communication overlap and are often used together, which implies that the different memories and their associated cognitive processes need to work together. The points made in this section do not rely on that argument regarding the relation of multiple memory types to the environmental situation of multiple communication types. What they do rely on is the assumption that, in the intelligence agent in question, the different components of memory are significantly but not wholly distinct. That is, there are significant "family resemblances" between the memories of a single type, yet there are also thoroughgoing connections between memories of different types.

Repeating the above points in a slightly more organized manner and then extending them, the essential idea of cognitive synergy, in the context of multi-memory systems, may be expressed in terms of the following points

1. Intelligence, relative to a certain set of environments, may be understood as the capability to achieve complex goals in these environments.
2. With respect to certain classes of goals and environments, an intelligent system requires a "multi-memory" architecture, meaning the possession of a number of specialized yet interconnected knowledge types, including: declarative, procedural, attentional, sensory, episodic and intentional (goal-related). These knowledge types may be viewed as different sorts of patterns that a system recognizes in itself and its environment.
3. Such a system must possess knowledge creation (i.e. pattern recognition / formation) mechanisms corresponding to each of these memory types. These mechanisms are also called "cognitive processes."
4. Each of these cognitive processes, to be effective, must have the capability to recognize when it lacks the information to perform effectively on its own; and in this case, to dynamically and interactively draw information from knowledge creation mechanisms dealing with other types of knowledge
5. This cross-mechanism interaction must have the result of enabling the knowledge creation mechanisms to perform much more effectively in combination than they would if operated non-interactively. This is "cognitive synergy."

Interactions as mentioned in Points 4 and 5 in the above list are the real conceptual meat of the cognitive synergy idea. One way to express the key idea here, in an AI context, is that most AI algorithms suffer from combinatorial explosions: the number of possible elements to be combined in a synthesis or analysis is just too great, and the algorithms are unable to filter through all the possibilities, given the lack of intrinsic constraint that comes along with a "general intelligence" context (as opposed to a narrow-AI problem like chess-playing, where the context is constrained and hence restricts the scope of possible combinations that needs to be considered). In an AGI architecture based on cognitive synergy, the different learning mechanisms must be designed specifically to interact in such a way as to palliate each others' combinatorial explosions - so that, for instance, each learning mechanism dealing with a certain sort of knowledge, must synergize with learning mechanisms dealing with the other sorts of knowledge, in a way that decreases the severity of combinatorial explosion.

One prerequisite for cognitive synergy to work is that each learning mechanism must recognize when it is "stuck," meaning it's in a situation where it has inadequate information to make a confident judgment about what steps to take next. Then, when it does recognize that it's stuck, it may request help from other, complementary cognitive mechanisms.

## 3.4 The General Structure of Cognitive Dynamics: Analysis and Synthesis

We have discussed the need for synergetic interrelation between cognitive processes corresponding to different types of memory ... and the general high-level cognitive dynamics that a mind must possess (evolution, autopoiesis). The next step is to dig further into the nature of the cognitive processes associated with different memory types and how they give rise to the needed high-level cognitive dynamics. In this section we present a *general theory of cognitive processes* based on a decomposition of cognitive processes into the two categories of *analysis* and *synthesis*, and a general formulation of each of these categories [3].

Specifically we focus here on what we call *focused cognitive processes*; that is, cognitive processes that selectively focus attention on a subset of the patterns making up a mind. In general these are not the only kind, there may also be *global cognitive processes* that act on every pattern in a mind. An example of a global cognitive process in CogPrime is the basic attention allocation process, which spreads "importance" among all knowledge in the system's memory. Global cognitive processes are also important, but focused cognitive processes are subtler to understand which is why we spend more time on them here.

### *3.4.1 Component-Systems and Self-Generating Systems*

We begin with autopoesis – and, more specifically, with the concept of a "component-system", as described in George Kampis's book *Self-Modifying Systems in Biology and Cognitive Science* [Kam91], and as modified into the concept of a "self-generating system" or SGS in Goertzel's book *Chaotic Logic* [Goe94]. Roughly speaking, a Kampis-style component-system consists of a set of components that combine with each other to form other compound components. The metaphor Kampis uses is that of Lego blocks, combining to form bigger Lego structures. Compound structures may in turn be combined together to form yet bigger compound structures. A self-generating system is basically the same concept as a component-system, but understood to be computable, whereas Kampis claims that component-systems are uncomputable.

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[3] While these points are highly compatible with theory of mind given in [Goe06a], they are not articulated there. The material presented in this section is a new development within patternist philosophy, presented previously only in the article [GPPG06].

Next, in SGS theory there is also a notion of reduction (not present in the Lego metaphor): sometimes when components are combined in a certain way, a "reaction" happens, which may lead to the elimination of some of the components. One relevant metaphor here is chemistry. Another is abstract algebra: for instance, if we combine a component f with its "inverse" component $f^{-1}$, both components are eliminated. Thus, we may think about two stages in the interaction of sets of components: combination, and reduction. Reduction may be thought of as algebraic simplification, governed by a set of rules that apply to a newly created compound component, based on the components that are assembled within it.

Formally, suppose $C_1, C_2, ...$ is the set of components present in a discrete-time component-system at time t. Then, the components present at time $t+1$ are a subset of the set of components of the form

$$Reduce(Join(C_i(1), ..., C_i(r)))$$

where *Join* is a joining operation, and *Reduce* is a reduction operator. The joining operation is assumed to map tuples of components into components, and the reduction operator is assumed to map the space of components into itself. Of course, the specific nature of a component system is totally dependent on the particular definitions of the reduction and joining operators; in following chapters we will specify these for the CogPrime system, but for the purpose of the broader theoretical discussion in this section they may be left general.

What is called the "cognitive equation" in *Chaotic Logic* [Goe94] is the case of a SGS where the patterns in the system at time $t$ have a tendency to correspond to components of the system at future times $t + s$. So, part of the action of the system is to transform implicit knowledge (patterns among system components) into explicit knowledge (specific system components). We will see one version of this phenomenon in Chapter 14 where we model implicit knowledge using mathematical structures called "derived hypergraphs"; and we will also later review several ways in which CogPrime's dynamics explicitly encourage cognitive-equation type dynamics, e.g.:

- inference, which takes conclusions implicit in the combination of logical relationships, and makes them implicit by deriving new logical relationships from them
- map formation, which takes concepts that have often been active together, and creates new concepts grouping them
- association learning, which creates links representing patterns of association between entities
- probabilistic procedure learning, which creates new models embodying patterns regarding which procedures tend to perform well according to particular fitness functions

### *3.4.2 Analysis and Synthesis*

Now we move on to the main point of this section: the argument that all or nearly all focused cognitive processes are expressible using two general process-schemata we call *synthesis* and *analysis* [4]. The notion of "focused cognitive process" will be exemplified more thoroughly below, but in essence what is meant is a cognitive process that begins with a small number of items (drawn from memory) as its focus, and has as its goal discovering something about these items, or discovering something about something else in the context of these items or in a way strongly biased by these items. This is different from a global cognitive process whose goal is more broadly-based and explicitly involves all or a large percentage of the knowledge in an intelligent system's memory store.

Among the focused cognitive processes are those governed by the so-called *cognitive schematic* implication

$$Context \wedge Procedure \rightarrow Goal$$

where the Context involves sensory, episodic and/or declarative knowledge; and attentional knowledge is used to regulate how much resource is given to each such schematic implication in memory. Synergy among the learning processes dealing with the context, the procedure and the goal is critical to the adequate execution of the cognitive schematic using feasible computational resources. This sort of explicitly goal-driven cognition plays a significant though not necessarily dominant role in CogPrime, and is also related to production rules systems and other traditional AI systems, as will be articulated in Chapter 4.

The synthesis and analysis processes as we conceive them, in the general framework of SGS theory, are as follows. First, synthesis, as shown in Figure 3.1, is defined as

**synthesis**: Iteratively build compounds from the initial component pool using the combinators, greedily seeking compounds that seem likely to achieve the goal.

Or in more detail:

1. Begin with some initial components (the initial "current pool"), an additional set of components identified as "combinators" (combination operators), and a goal function
2. Combine the components in the current pool, utilizing the combinators, to form product components in various ways, carrying out reductions as appropriate, and calculating relevant quantities associated with components as needed
3. Select the product components that seem most promising according to the goal function, and add these to the current pool (or else simply define these as the current pool)
4. Return to Step 2

And analysis, as shown in Figure 3.2, is defined as

**analysis**: Iteratively search (the system's long-term memory) for component-sets that combine using the combinators to form the initial component pool (or subsets thereof), greedily seeking component-sets that seem likely to achieve the goal

or in more detail:

1. Begin with some components (the initial "current pool") and a goal function
2. Seek components so that, if one combines them to form product components using the combinators and then performs appropriate reductions, one obtains (as many as possible of) the components in the current pool

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[4] In [GPPG06], what is here called "analysis" was called "backward synthesis", a name which has some advantages since it indicated that what's happening is a form of creation; but here we have opted for the more traditional analysis/synthesis terminology

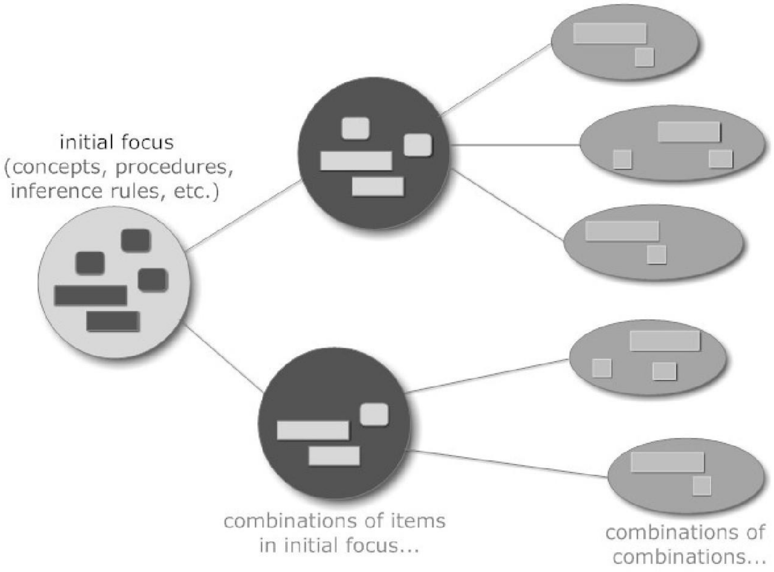

initial focus
(concepts, procedures, inference rules, etc.)
combinations of items in initial focus...
combinations of combinations...

Fig. 3.1: The General Process of Synthesis

3. Use the newly found constructions of the components in the current pool, to update the quantitative properties of the components in the current pool, and also (via the current pool) the quantitative properties of the components in the initial pool
4. Out of the components found in Step 2, select the ones that seem most promising according to the goal function, and add these to the current pool (or else simply define these as the current pool)
5. Return to Step 2

More formally, synthesis may be specified as follows. Let $X$ denote the set of combinators, and let $Y_0$ denote the initial pool of components (the initial focus of the cognitive process). Given $Y_i$, let $Z_i$ denote the set

$$Reduce(Join(C_i(1), ..., C_i(r)))$$

where the $C_i$ are drawn from $Y_i$ or from $X$. We may then say
$Y_{i+1} = Filter(Z_i)$
where $Filter$ is a function that selects a subset of its arguments.

Analysis, on the other hand, begins with a set $W$ of components, and a set $X$ of combinators, and tries to find a series $Y_i$ so that according to the process of synthesis, $Y_n{=}W$.

In practice, of course, the implementation of a synthesis process need not involve the explicit construction of the full set $Z_i$. Rather, the filtering operation takes place implicitly during the construction of $Y_{i+1}$. The result, however, is that one gets some subset of the compounds producible via joining and reduction from the set of components present in $Y_i$ plus the combinators $X$.

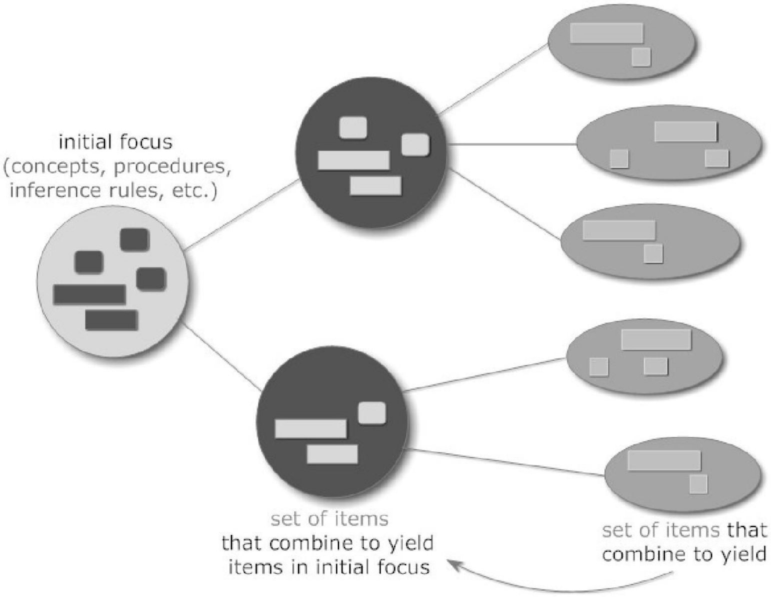


Fig. 3.2: The General Process of Analysis

Conceptually one may view synthesis as a very generic sort of "growth process," and analysis as a very generic sort of "figuring out how to grow something." The intuitive idea underlying the present proposal is that these forward-going and backward-going "growth processes" are among the essential foundations of cognitive control, and that a conceptually sound design for cognitive control should explicitly make use of this fact. To abstract away from the details, what these processes are about is:

- taking the general dynamic of compound-formation and reduction as outlined in Kampis and *Chaotic Logic*
- introducing goal-directed pruning ("filtering") into this dynamic so as to account for the limitations of computational resources that are a necessary part of pragmatic intelligence

### *3.4.3 The Dynamic of Iterative Analysis and Synthesis*

While synthesis and analysis are both very useful on their own, they achieve their greatest power when harnessed together. It is my hypothesis that the dynamic pattern of alternating synthesis and analysis has a fundamental role in cognition. Put simply, synthesis creates new mental forms by combining existing ones. Then, analysis seeks simple explanations for the forms in the mind, including the newly created ones; and, this explanation itself then comprises additional new forms in the mind, to be used as fodder for the next round of synthesis. Or, to put it yet more simply:

⇒ **Combine** ⇒ **Explain** ⇒ **Combine** ⇒ **Explain** ⇒ **Combine** ⇒

It is not hard to express this alternating dynamic more formally, as well.

- Let X denote any set of components.
- Let F(X) denote a set of components which is the result of synthesis on X.
- Let B(X) denote a set of components which is the result of analysis of X. We assume also a heuristic biasing the synthesis process toward simple constructs.
- Let S(t) denote a set of components at time t, representing part of a system's knowledge base.
- Let I(t) denote components resulting from the external environment at time t.

Then, we may consider a dynamical iteration of the form

$$S(t+1) = B(F(S(t) + I(t)))$$

This expresses the notion of alternating synthesis and analysis formally, as a dynamical iteration on the space of sets of components. We may then speak about attractors of this iteration: fixed points, limit cycles and strange attractors. One of the key hypotheses I wish to put forward here is that some key emergent cognitive structures are strange attractors of this equation. The iterative dynamic of combination and explanation leads to the emergence of certain complex structures that are, in essence, maintained when one recombines their parts and then seeks to explain the recombinations. These structures are built in the first place through iterative recombination and explanation, and then survive in the mind because they are conserved by this process. They then ongoingly guide the construction and destruction of various other temporary mental structures that are not so conserved.

### *3.4.4 Self and Focused Attention as Approximate Attractors of the Dynamic of Iterated Forward-Analysis*

As noted above, patternist philosophy argues that two key aspects of intelligence are emergent structures that may be called the "self" and the "attentional focus." These, it is suggested, are aspects of intelligence that may not effectively be wired into the infrastructure of an intelligent system, though of course the infrastructure may be configured in such a way as to encourage their emergence. Rather, these aspects, by their nature, are only likely to be effective if they emerge from the cooperative activity of various cognitive processes acting within a broad base of knowledge.

Above we have described the pattern of ongoing habitual oscillation between synthesis and analysis as a kind of "dynamical iteration." Here we will argue that both self and attentional focus may be viewed as strange attractors of this iteration. The mode of argument is relatively informal. The essential processes under consideration are ones that are poorly understood from an empirical perspective, due to the extreme difficulty involved in studying them experimentally. For understanding self and attentional focus, we are stuck in large part with introspection, which is famously unreliable in some contexts, yet still dramatically better than having no information at all. So, the philosophical perspective on self and attentional focus given here is a synthesis of empirical and introspective notions, drawn largely from the published thinking and research of others but with a few original twists. From a CogPrime perspective, its use has been to guide the design process, to provide a grounding for what otherwise would have been fairly arbitrary choices.

#### 3.4.4.1 Self

Another high-level intelligent system pattern mentioned above is the "self", which we here will tie in with analysis and synthesis processes. The term "self" as used here refers to the "phenomenal self" [Met04] or "self-model". That is, the self is the model that a system builds internally, reflecting the patterns observed in the (external and internal) world that directly pertain to the system itself. As is well known in everyday human life, self-models need not be completely accurate to be useful; and in the presence of certain psychological factors, a more accurate self-model may not necessarily be advantageous. But a self-model that is too badly inaccurate will lead to a badly-functioning system that is unable to effectively act toward the achievement of its own goals.

The value of a self-model for any intelligent system carrying out embodied agentive cognition is obvious. And beyond this, another primary use of the self is as a foundation for metaphors and analogies in various domains. Patterns recognized pertaining to the self are analogically extended to other entities. In some cases this leads to conceptual pathologies, such as the anthropomorphization of trees, rocks and other such objects that one sees in some precivilized cultures. But in other cases this kind of analogy leads to robust sorts of reasoning - for instance, in reading Lakoff and Nunez's [LN00] intriguing explorations of the cognitive foundations of mathematics, it is pretty easy to see that most of the metaphors on which they hypothesize mathematics to be based, are grounded in the mind's conceptualization of itself as a spatiotemporally embedded entity, which in turn is predicated on the mind's having a conceptualization of itself (a self) in the first place.

A self-model can in many cases form a self-fulfilling prophecy (to make an obvious double-entendre'!). Actions are generated based on one's model of what sorts of actions one can and/or should take; and the results of these actions are then incorporated into one's self-model. If a self-model proves a generally bad guide to action selection, this may never be discovered, unless said self-model includes the knowledge that semi-random experimentation is often useful.

In what sense, then, may it be said that self is an attractor of iterated analysis? Analysis infers the self from observations of system behavior. The system asks: What kind of system might I be, in order to give rise to these behaviors that I observe myself carrying out? Based on asking itself this question, it constructs a model of itself, i.e. it constructs a self. Then, this self guides the system's behavior: it builds new logical relationships its self-model and various other entities, in order to guide its future actions oriented toward achieving its goals. Based on the behaviors newly induced via this constructive, forward-synthesis activity, the system may then engage in analysis again and ask: What must I be now, in order to have carried out these new actions? And so on.

Our hypothesis is that after repeated iterations of this sort, in infancy, finally during early childhood a kind of self-reinforcing attractor occurs, and we have a self-model that is resilient and doesn't change dramatically when new instances of action- or explanation-generation occur. This is not strictly a mathematical attractor, though, because over a long period of time the self may well shift significantly. But, for a mature self, many hundreds of thousands or millions of forward-analysis cycles may occur before the self-model is dramatically modified. For relatively long periods of time, small changes within the context of the existing self may suffice to allow the system to control itself intelligently.

Humans can also develop what are known as **subselves** [Row90]. A subself is a partially autonomous self-network focused on particular tasks, environments or interactions. It contains a unique model of the whole organism, and generally has its own set of episodic memories, consisting of memories of those intervals during which it was the primary dynamic mode controlling the organism. One common example is the **creative subself** – the subpersonality that takes over when a creative person launches into the process of creating something. In these times, a whole different personality sometimes emerges, with a different sort of relationship to the world. Among other factors, creativity requires a certain open-ness that is not always productive in an everyday life context, so it's natural for the self-system of a highly creative person to bifurcate into one self-system for everyday life, and another for the protected context of creative activity. This sort of phenomenon might emerge naturally in CogPrime systems as well if they were exposed to appropriate environments and social situations.

Finally, it is interesting to speculate regarding how self may differ in future AI systems as opposed to in humans. The relative stability we see in human selves may not exist in AI systems that can self-improve and change more fundamentally and rapidly than humans can. There may be a situation in which, as soon as a system has understood itself decently, it radically modifies itself and hence violates its existing self-model. Thus: intelligence without a long-term stable self. In this case the "attractor-ish" nature of the self holds only over much shorter time scales than for human minds or human-like minds. But the alternating process of synthesis and analysis for self-construction is still critical, even though no reasonably stable self-constituting attractor ever emerges. The psychology of such intelligent systems will almost surely be beyond human beings' capacity for comprehension and empathy.

#### 3.4.4.2 Attentional Focus

Finally, we turn to the notion of an "attentional focus" similar to Baars' [Baa97] notion of a Global Workspace, which will be reviewed in more detail in Chapter 4: a collection of mental entities that are, at a given moment, receiving far more than the usual share of an intelligent system's computational resources. Due to the amount of attention paid to items in the attentional focus, at any given moment these items are in large part driving the cognitive processes going on elsewhere in the mind as well - because the cognitive processes acting on the items in the attentional focus are often involved in other mental items, not in attentional focus, as well (and sometimes this results in pulling these other items into attentional focus). An intelligent system must constantly shift its attentional focus from one set of entities to another based on changes in its environment and based on its own shifting discoveries.

In the human mind, there is a self-reinforcing dynamic pertaining to the collection of entities in the attentional focus at any given point in time, resulting from the observation that: If A is in the attentional focus, and A and B have often been associated in the past, then odds are increased that B will soon be in the attentional focus. This basic observation has been refined tremendously via a large body of cognitive psychology work; and neurologically it follows not only from Hebb's [Heb49] classic work on neural reinforcement learning, but also from numerous more modern refinements [SB98]. But it implies that two items A and B, if both in the attentional focus, can reinforce each others' presence in the attentional focus, hence forming a kind of conspiracy to keep each other in the limelight. But of course, this kind of dynamic must be counteracted by a pragmatic tendency to remove items from the attentional focus if giving them attention is not providing sufficient utility in terms of the achievement of system goals.

The synthesis and analysis perspective provides a more systematic perspective on this self-reinforcing dynamic. Synthesis occurs in the attentional focus when two or more items in the focus are combined to form new items, new relationships, new ideas. This happens continually, as one of the main purposes of the attentional focus is combinational. On the other hand, Analysis then occurs when a combination that has been speculatively formed is then linked in with the remainder of the mind (the "unconscious", the vast body of knowledge that is not in the attentional focus at the given moment in time). Analysis basically checks to see what support the new combination has within the existing knowledge store of the system. Thus, forward-analysis basically comes down to "generate and test", where the testing takes the form of attempting to integrate the generated structures with the ideas in the unconscious long-term memory. One of the most obvious examples of this kind of dynamic is creative thinking (Boden, 2003; Goertzel, 1997), where the attentional focus continually combinationally creates new ideas, which are then tested via checking which ones can be validated in terms of (built up from) existing knowledge.

The analysis stage may result in items being pushed out of the attentional focus, to be replaced by others. Likewise may the synthesis stage: the combinations may overshadow and then replace the things combined. However, in human minds and functional AI minds, the attentional focus will not be a complete chaos with constant turnover: Sometimes the same set of ideas – or a shifting set of ideas within the same overall family of ideas – will remain in focus for a while. When this occurs it is because this set or family of ideas forms an approximate attractor for the dynamics of the attentional focus, in particular for the forward-analysis dynamic of speculative combination and integrative explanation. Often, for instance, a small "core set" of ideas will remain in the attentional focus for a while, but will not exhaust the attentional focus: the rest of the attentional focus will then, at any point in time, be occupied with other ideas related to the ones in the core set. Often this may mean that, for a while, the whole of the attentional focus will move around quasi-randomly through a "strange attractor" consisting of the set of ideas related to those in the core set.

### *3.4.5 Conclusion*

The ideas presented above (the notions of synthesis and analysis, and the hypothesis of self and attentional focus as attractors of the iterative forward-analysis dynamic) are quite generic and are hypothetically proposed to be applicable to any cognitive system, natural or artificial. Later chapters will discuss the manifestation of the above ideas in the context of CogPrime. We have found that the analysis/synthesis approach is a valuable tool for conceptualizing CogPrime's cognitive dynamics, and we conjecture that a similar utility may be found more generally.

Next, so as not to end the section on too blasé of a note, we will also make a stronger hypothesis: that, in order for a physical or software system to achieve intelligence that is roughly human-level in both capability and generality, using computational resources on the same order of magnitude as the human brain, this system must

- manifest the dynamic of iterated synthesis and analysis, as modes of an underlying "self-generating system" dynamic

- do so in such a way as to lead to self and attentional focus as emergent structures that serve as approximate attractors of this dynamic, over time periods that are long relative to the basic "cognitive cycle time" of the system's forward-analysis dynamics

To prove the truth of a hypothesis of this nature would seem to require mathematics fairly far beyond anything that currently exists. Nonetheless, however, we feel it is important to formulate and discuss such hypotheses, so as to point the way for future investigations both theoretical and pragmatic.

## 3.5 Perspectives on Machine Consciousness

Finally, we can't let a chapter on philosophy – even a brief one – end without some discussion of the thorniest topic in the philosophy of mind: consciousness. Rather than seeking to resolve or comprehensively review this most delicate issue, we will restrict ourselves to giving it in Appendix **??** an overview of many of the common views on the subject; and here in the main text discussing the relationship between consciousness theory and patternist philosophy of cognition, the practical work of designing and building AGI.

One fairly concrete idea about consciousness, that relates closely to certain aspects of the CogPrime design, is that the subjective experience of being conscious of some entity X, is correlated with the presence of a very intense pattern in one's overall mind-state, corresponding to X. This simple idea is also the essence of neuroscientist Susan Greenfield's theory of consciousness [Gre01] (but in her theory, "overall mind-state" is replaced with "brain-state"), and has much deeper historical roots in philosophy of mind which we shall not venture to unravel here.

This observation relates to the idea of "moving bubbles of awareness" in intelligent systems. If an intelligent system consists of multiple processing or data elements, and during each (sufficiently long) interval of time some of these elements get much more attention than others, then one may view the system as having a certain "attentional focus" during each interval. The attentional focus is itself a significant pattern in the system (the pattern being "these elements habitually get more processor and memory", roughly speaking). As the attentional focus shifts over time one has a "moving bubble of pattern" which then corresponds experientially to a "moving bubble of awareness."

This notion of a "moving bubble of awareness" ties in very closely to global workspace theory [Baa97] (briefly mentioned above), a cognitive theory that has broad support from neuroscience and cognitive science and has also served as the motivation for Stan Franklin's LIDA AI system [BF09], to be discussed in Chapter **??**. The global workspace theory views the mind as consisting of a large population of small, specialized processes – a society of agents. These agents organize themselves into coalitions, and coalitions that are relevant to contextually novel phenomena, or contextually important goals, are pulled into the global workspace (which is identified with consciousness). This workspace broadcasts the message of the coalition to all the unconscious agents, and recruits other agents into consciousness. Various sorts of contexts – e.g. goal contexts, perceptual contexts, conceptual contexts and cultural contexts – play a role in determining which coalitions are relevant, and form the unconscious "background" of the conscious global workspace. New perceptions are often, but not necessarily, pushed into the workspace. Some of the agents in the global workspace are concerned with action selection, i.e. with controlling and passing parameters to a population of possible actions. The contents of the workspace at any given time have a certain cohesiveness and interdependency, the so-called "unity of consciousness." In essence the contents of the global workspace form a moving bubble of attention or awareness.

In CogPrime, this moving bubble is achieved largely via economic attention network (ECAN) equations [GPI+10] that propagate virtual currency between nodes and links representing elements of memories, so that the attentional focus consists of the wealthiest nodes and links. Figures 3.3 and 3.4 illustrate the existence and flow of attentional focus in OpenCog. On the other hand, in Hameroff's recent model of the brain [Ham10], the brain's moving bubble of attention is achieved through dendro-dendritic connections and the emergent dendritic web.

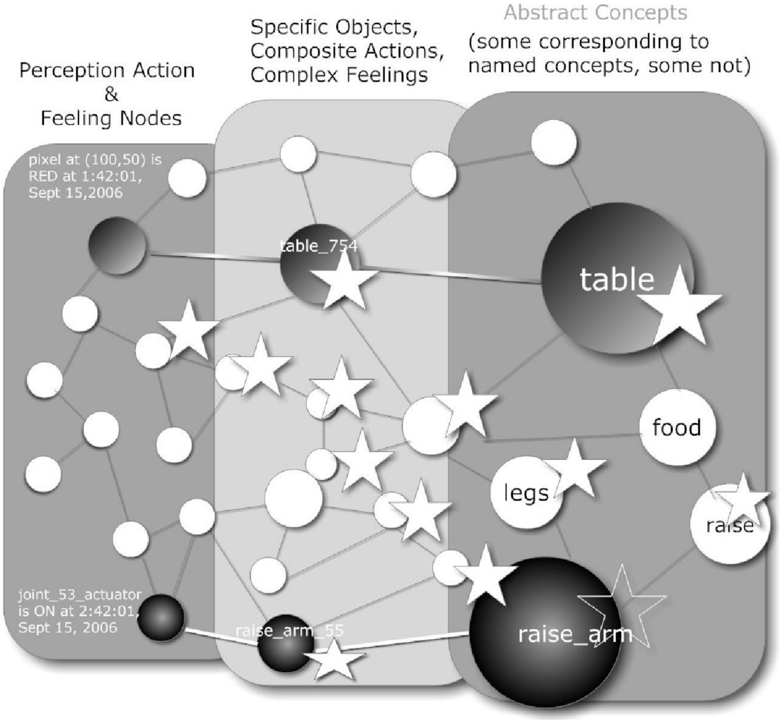
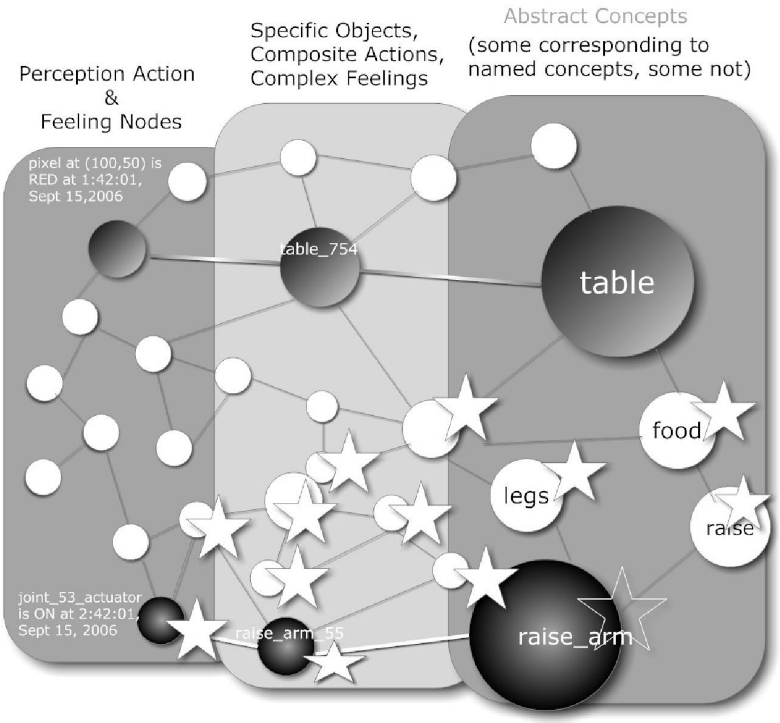

Perception Action
&
Feeling Nodes
Specific Objects,
Composite Actions,
Complex Feelings
Abstract Concepts
(some corresponding to
named concepts, some not)
pixel at (100,50) is
RED at 1:42:01,
Sept 15,2006
table_754
table
food
legs
raise
joint_53_actuator
is ON at 2:42:01,
Sept 15, 2006
raise_arm_55
raise_arm

Fig. 3.3: Graphical depiction of the momentary bubble of attention in the memory of an OpenCog AI system. Circles and lines represent nodes and links in OpenCogPrimes memory, and stars denote those nodes with a high level of attention (represented in OpenCog by the ShortTermImportance node variable) at the particular point in time.

In this perspective, self, free will and reflective consciousness are specific phenomena occurring *within* the moving bubble of awareness. They are specific ways of experiencing awareness, corresponding to certain abstract types of physical structures and dynamics, which we shall endeavor to identify in detail in Appendix **??**.


Perception Action
&
Feeling Nodes
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(some corresponding to
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pixel at (100,50) is
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Sept 15,2006
table_754
table
food
legs
raise
joint_53_actuator
is ON at 2:42:01,
Sept 15, 2006
raise_arm_55
raise_arm

Fig. 3.4: Graphical depiction of the momentary bubble of attention in the memory of an OpenCog AI system, a few moments after the bubble shown in Figure 3.3, indicating the moving of the bubble of attention. Depictive conventions are the same as in Figure 1. This shows an idealized situation where the declarative knowledge remains invariant from one moment to the next but only the focus of attention shifts. In reality both will evolve together.

## 3.6 Postscript: Formalizing Pattern

Finally, before winding up our very brief tour through patternist philosophy of mind, we will briefly visit patternism's more formal side. Many of the key aspects of patternism have been rigorously formalized. Here we give only a few very basic elements of the relevant mathematics, which will be used later on in the exposition of CogPrime. (Specifically, the formal definition of pattern emerges in the CogPrime design in the definition of a fitness function for "pattern mining" algorithms and Occam-based concept creation algorithms, and the definition of intensional inheritance within PLN.)

We give some definitions, drawn from Appendix 1 of [Goe06a]:

**Definition 1** *Given a metric space* $(M, d)$*, and two functions* $c : M \rightarrow [0, \infty]$ *(the "simplicity measure") and* $F : M \rightarrow M$ *(the "production relationship"), we say that* $\mathcal{P} \in M$ *is a* **pattern** *in* $X \in M$ *to the degree*

$$\iota_X^{\mathcal{P}} = \left( \left( 1 - \frac{d(F(\mathcal{P}), X)}{c(X)} \right) \frac{c(X) - c(\mathcal{P})}{c(X)} \right)^+$$

This degree is called the **pattern intensity** of $\mathcal{P}$ in $X$. It quantifies the extent to which $\mathcal{P}$ is a pattern in $X$. Supposing that $F(\mathcal{P}) = X$, then the first factor in the definition equals 1, and we are left with only the second term, which measures the degree of compression obtained via representing $X$ as the result of $P$ rather than simply representing $X$ directly. The greater the compression ratio obtained via using $P$ to represent $X$, the greater the intensity of $P$ as a pattern in $X$. The first time, in the case $F(\mathcal{P}) \neq X$, adjusts the pattern intensity downwards to account for the amount of error with which $F(\mathcal{P})$ approximates $\neq X$. If one holds the second factor fixed and thinks about varying the first factor, then: The greater the error, the lossier the compression, and the lower the pattern intensity.

For instance, if one wishes one may take $c$ to denote algorithmic information measured on some reference Turing machine, and $F(X)$ to denote what appears on the second tape of a two-tape Turing machine $t$ time-steps after placing $X$ on its first tape. Other more naturalistic computational models are also possible here and are discussed extensively in Appendix 1 of [Goe06a].

**Definition 2** *The* **structure** *of $X \in M$ is the fuzzy set $St_X$ defined via the membership function*

$$\chi_{St_X}(\mathcal{P}) = \iota_X^{\mathcal{P}}$$

This lets us formalize our definition of "mind" alluded to above: the mind of $X$ as the set of patterns associated with $X$. We can formalize this, for instance, by considering $\mathcal{P}$ to belong to the mind of $X$ if it is a pattern in some $Y$ that includes $X$. There are then two numbers to look at: $\iota_X^{\mathcal{P}}$ and $P(Y|X)$ (the percentage of $Y$ that is also contained in $X$). To define the degree to which $\mathcal{P}$ belongs to the mind of $X$ we can then combine these two numbers using some function $f$ that is monotone increasing in both arguments. This highlights the somewhat arbitrary semantics of "of" in the phrase "the mind of $X$." Which of the patterns binding $X$ to its environment are part of $X$'s mind, and which are part of the world? This isn't necessarily a good question, and the answer seems to depend on what perspective you choose, represented formally in the present framework by what combination function $f$ you choose (for instance if $f(a, b) = a^r b^{2-r}$ then it depends on the choice of $0 < r < 1$).

Next, we can formalize the notion of a "pattern space" by positing a metric on patterns, thus making pattern space a metric space, which will come in handy in some places in later chapters:

**Definition 3** *Assuming $M$ is a countable space, the* **structural distance** *is a metric $d_{St}$ defined on $M$ via*

$$d_{St}(X, Y) = T(\chi_{St_X}, \chi_{St_Y})$$

*where $T$ is the Tanimoto distance.*

The Tanimoto distance between two real vectors $A$ and $B$ is defined as

$$T(A, B) = \frac{A \cdot B}{\|A\|^2 + \|B\|^2 - A \cdot B}$$

and since $M$ is countable this can be applied to fuzzy sets such as $St_X$ via considering the latter as vectors. (As an aside, this can be generalized to uncountable $M$ as well, but we will not require this here.)

Using this definition of pattern, combined with the formal theory of intelligence given in Chapter 7, one may formalize the various hypotheses made in the previous section, regarding the emergence of different kinds of networks and structures as patterns in intelligent systems. However, it appears quite difficult to prove the formal versions of these hypotheses given current mathematical tools, which renders such formalizations of limited use.

Finally, consider the case where the metric space $M$ has a partial ordering $<$ on it; we may then define

**Definition 3.1.** $\mathcal{R} \in M$ is a **subpattern** in $X \in M$ to the degree

$$\kappa_X^{\mathcal{R}} = \frac{\int_{\mathcal{P} \in M} \text{true}(R < P) d\iota_X^{\mathcal{P}}}{\int_{\mathcal{P} \in M} d\iota_X^{\mathcal{P}}}$$

This degree is called the **subpattern intensity** of $\mathcal{P}$ in $X$.

Roughly speaking, the subpattern intensity measures the percentage of patterns in $X$ that contain $R$ (where "containment" is judged by the partial ordering $<$). But the percentage is measured using a weighted average, where each pattern is weighted by its intensity as a pattern in $X$. A subpattern may or may not be a pattern on its own. A nonpattern that happens to occur within many patterns may be an intense subpattern.

Whether the subpatterns in $X$ are to be considered part of the "mind" of $X$ is a somewhat superfluous question of semantics. Here we choose to extend the definition of mind given in [Goe06a] to include subpatterns as well as patterns, because this makes it simpler to describe the relationship between hypersets and minds, as we will do in Appendix **??**.

# Chapter 4
# Brief Survey of Cognitive Architectures

## 4.1 Introduction

While we believe CogPrime is the most thorough attempt at an architecture for advanced AGI, to date, we certainly recognize there have been many valuable attempts in the past with similar aims; and we also have great respect for other AGI efforts occurring in parallel with CogPrime development, based on alternative, sometimes overlapping, theoretical presuppositions and practical choices. In most of this book we will ignore these other current and historical efforts except where they are directly useful for CogPrime – there are many literature reviews already published, and this is a research treatise not a textbook. In this chapter, however, we will break from this pattern and give a rough high-level overview of the various AGI architectures at play in the field today. The overview definitely has a bias toward other work with some direct relevance to CogPrime, but not an overwhelming bias; we also discuss a number of approaches that are unrelated to, and even in some cases conceptually orthogonal to, our own.

CogPrime builds on prior AI efforts in a variety of ways. Most of the specific algorithms and structures in CogPrime have their roots in prior AI work; and in addition, the CogPrime cognitive architecture has been heavily inspired by some other holistic cognitive architectures, especially (but not exclusively) MicroPsi [Bac09], LIDA [BF09] and DeSTIN [ARK09a, ARC09]. In this chapter we will briefly review some existing cognitive architectures, with especial but not exclusive emphasis on the latter three.

We will articulate some rough mappings between elements of these other architectures and elements of CogPrime – some in this chapter, and some in Chapter 5. However, these mappings will mostly be left informal and very incompletely specified. The articulation of detailed inter-architecture mappings is an important project, but would be a substantial additional project going well beyond the scope of this book. We will not give a thorough review of the similarities and differences between CogPrime and each of these architectures, but only mention some of the highlights.

The reader desiring a more thorough review of cognitive architectures is referred to Wlodek Duch's review paper from the AGI-08 conference [DOP08]; and also to Alexei Samsonovich's review paper [Sam10], which compares a number of cognitive architectures in terms of a feature checklist, and was created collaboratively with the creators of the architectures.

Duch, in his survey of cognitive architectures [DOP08], divides existing approaches into three paradigms – symbolic, emergentist and hybrid – as broadly indicated in Figure 4.1. Drawing on his survey and updating slightly, we give here some key examples of each, and then explain why

CogPrime represents a significantly more effective approach to embodied human-like general intelligence. In our treatment of emergentist architectures, we pay particular attention to *developmental robotics* architectures, which share considerably with CogPrime in terms of underlying philosophy, but differ via not integrating a symbolic "language and inference" component such as CogPrime includes.

In brief, we believe that the hybrid approach is the most pragmatic one given the current state of AI technology, but that the emergentist approach gets something fundamentally right, by focusing on the emergence of complex dynamics and structures from the interactions of simple components. So CogPrime is a hybrid architecture which (according to the cognitive synergy principle) binds its components together very tightly dynamically, allowing the emergence of complex dynamics and structures in the integrated system. Most other hybrid architectures are less tightly coupled and hence seem ill-suited to give rise to the needed emergent complexity. The other hybrid architectures that do possess the needed tight coupling, such as MicroPsi [Bac09], strike us as underdeveloped and founded on insufficiently powerful learning algorithms.

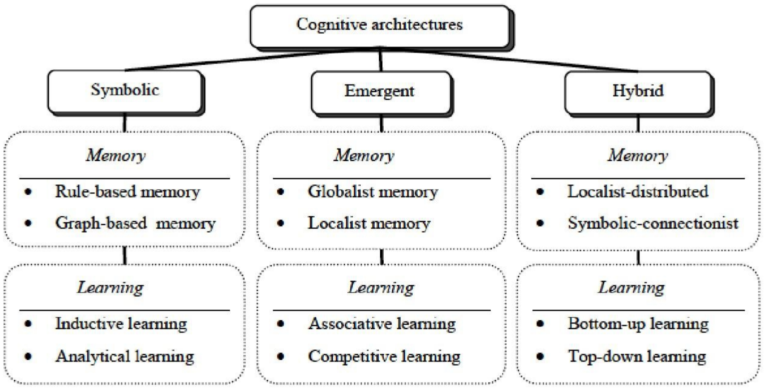
Cognitive architectures
Symbolic
Emergent
Hybrid
Memory
Rule-based memory
Graph-based memory
Memory
Globalist memory
Localist memory
Memory
Localist-distributed
Symbolic-connectionist
Learning
Inductive learning
Analytical learning
Learning
Associative learning
Competitive learning
Learning
Bottom-up learning
Top-down learning

Fig. 4.1: Duch's simplified taxonomy of cognitive architectures. CogPrime falls into the "hybrid" category, but differs from other hybrid architectures in its focus on synergetic interactions between components and their potential to give rise to appropriate system-wide emergent structures enabling general intelligence.

## 4.2 Symbolic Cognitive Architectures

A venerable tradition in AI focuses on the physical symbol system hypothesis [New90], which states that minds exist mainly to manipulate symbols that represent aspects of the world or themselves. A physical symbol system has the ability to input, output, store and alter symbolic entities, and to execute appropriate actions in order to reach its goals. Generally, symbolic cognitive architectures focus on "working memory" that draws on long-term memory as needed, and utilize a centralized control over perception, cognition and action. Although in principle such architectures could be arbitrarily capable (since symbolic systems have universal representational and computational power, in theory), in practice symbolic architectures tend to be weak in learning, creativity, procedure learning, and episodic and associative memory. Decades of work in this tradition have not resolved these issues, which has led many researchers to explore other options. A few of the more important symbolic cognitive architectures are:

- **SOAR** [LRN87], a classic example of expert rule-based cognitive architecture designed to model general intelligence. It has recently been extended to handle sensorimotor functions, though in a somewhat cognitively unnatural way; and is not yet strong in areas such as episodic memory, creativity, handling uncertain knowledge, and reinforcement learning.
- **ACT-R** [AL03] is fundamentally a symbolic system, but Duch classifies it as a hybrid system because it incorporates connectionist-style activation spreading in a significant role; and there is an experimental thoroughly connectionist implementation to complement the primary mainly-symbolic implementation. Its combination of SOAR-style "production rules" with large-scale connectionist dynamics allows it to simulate a variety of human psychological phenomena, but abstract reasoning, creativity and transfer learning are still missing.
- **EPIC** [RCK01], a cognitive architecture aimed at capturing human perceptual, cognitive and motor activities through several interconnected processors working in parallel. The system is controlled by production rules for cognitive processors and a set of perceptual (visual, auditory, tactile) and motor processors operating on symbolically coded features rather than raw sensory data. It has been connected to SOAR for problem solving, planning and learning,
- **ICARUS** [Lan05], an integrated cognitive architecture for physical agents, with knowledge specified in the form of reactive skills, each denoting goal-relevant reactions to a class of problems. The architecture includes a number of modules: a perceptual system, a planning system, an execution system, and several memory systems. Concurrent processing is absent, attention allocation is fairly crude, and uncertain knowledge is not thoroughly handled.
- **SNePS** (Semantic Network Processing System) [SE07] is a logic, frame and network-based knowledge representation, reasoning, and acting system that has undergone over three decades of development. While it has been used for some interesting prototype experiments in language processing and virtual agent control, it has not yet been used for any large-scale or real-world application.
- **Cyc** [LG90] is an AGI architecture based on predicate logic as a knowledge representation, and using logical reasoning techniques to answer questions and derive new knowledge from old. It has been connected to a natural language engine, and designs have been created for the connection of Cyc with Albus's 4D-RCS [AM01]. Cyc's most unique aspect is the large database of commonsense knowledge that Cycorp has accumulated (millions of pieces of knowledge, entered by specially trained humans in predicate logic format); part of the philosophy underlying Cyc is that once a sufficient quantity of knowledge is accumulated in the knowledge base, the problem of creating human-level general intelligence will become much less difficult due to the ability to leverage this knowledge.

While these architectures contain many valuable ideas and have yielded some interesting results, we feel they are incapable *on their own* of giving rise to the emergent structures and dynamics required to yield humanlike general intelligence using feasible computational resources. However, we are more sanguine about the possibility of ideas and components from symbolic architectures playing a role in human-level AGI via incorporation in hybrid architectures.

We now review a few symbolic architectures in slightly more detail.

### 4.2.1 SOAR

The cognitive architectures best known among AI academics are probably Soar and ACT-R, both of which are explicitly being developed with the dual goals of creating human-level AGI and modeling all aspects of human psychology. Neither the Soar nor ACT-R communities feel themselves particularly near these long-term goals, yet they do take them seriously.

Soar is based on IF-THEN rules, otherwise known as "production rules." On the surface this makes it similar to old-style expert systems, but Soar is much more than an expert system; it's at minimum a sophisticated problem-solving engine. Soar explicitly conceives problem solving as a search through solution space for a "goal state" representing a (precise or approximate) problem solution. It uses a methodology of incremental search, where each step is supposed to move the system a little closer to its problem-solving goal, and each step involves a potentially complex "decision cycle."

In the simplest case, the decision cycle has two phases:

- Gathering appropriate information from the system's long-term memory (LTM) into its working memory (WM)
- A decision procedure that uses the gathered information to decide an action

If the knowledge available in LTM isn't enough to solve the problem, then the decision procedure invokes search heuristics like hill-climbing, which try to create new knowledge (new production rules) that will help move the system closer to a solution. If a solution is found by chaining together multiple production rules, then a chunking mechanism is used to combine these rules together into a single rule for future use. One could view the chunking mechanism as a way of converting explicit knowledge into implicit knowledge, similar to "map formation" in CogPrime (see Chapter 42 of Part 2), but in the current Soar design and implementation it is a fairly crude mechanism.

In recent years Soar has acquired a number of additional methods and modalities, including some visual reasoning methods and some mechanisms for handling episodic and procedural knowledge. These expand the scope of the system but the basic production rule and chunking mechanisms as briefly described above remain the core "cognitive algorithm" of the system.

From a CogPrime perspective, what Soar offers is certainly valuable, e.g.

- heuristics for transferring knowledge from LTM into WM
- chaining and chunking of implications
- methods for interfacing between other forms of knowledge and implications

However, a very short and very partial list of the major differences between Soar and CogPrime would include

- CogPrime contains a variety of other core cognitive mechanisms beyond the management and chunking of implications
- the variety of "chunking" type methods in CogPrime goes far beyond the sort of localized chunking done in Soar
- CogPrime is committed to representing uncertainty at the base level whereas Soar's production rules are crisp
- The mechanisms for LTM-WM interaction are rather different in CogPrime, being based on complex nonlinear dynamics as represented in Economic Attention Allocation (ECAN)
- Currently Soar does not contain creativity-focused heuristics like blending or evolutionary learning in its core cognitive dynamic.